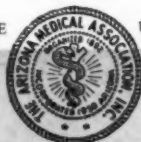


DOES NOT CIRCULATE

# Arizona Medicine

JOURNAL OF ARIZONA MEDICAL ASSOCIATION

MEDICAL SOCIETY OF THE



UNITED STATES AND MEXICO

Volume 17

Number 9

September, 1960

UNIVERSITY  
OF MICHIGAN

✓ SEP 23 1960

MEDICAL  
LIBRARY

when judgment dictates oral penicillin, experience dictates...

## V-CILLIN K<sup>®</sup>

(penicillin V potassium, Lilly)

- for maximum effectiveness
- for unmatched speed
- for unsurpassed safety

In tablets of 125 and 250 mg.

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U.S.A.



033230

University of Michigan  
Gen. Library  
Ann Arbor, Mich.

# VIRTUALLY NO DECREASE IN STAPHYLOCOCCAL SENSITIVITY

OVER AN 8-YEAR SPAN ... TO

## CHLOROMYCETIN®

(chloramphenicol, Parke-Davis)

An outstanding and frequently reported characteristic of CHLOROMYCETIN<sup>1-8</sup> "...is the fact that the very great majority of the so-called resistant staphylococci are susceptible to its action."<sup>1</sup> In describing their study, Rebhan and Edwards<sup>2</sup> state that "...only a small percentage of strains have shown resistance..." to CHLOROMYCETIN, despite steadily increasing use of the drug over the years.

Fisher<sup>3</sup> observes: "The over-all average incidence of resistance, for the 31,779 strains [of staphylococci] through nine years was about 9%." Finland<sup>4</sup> reports that, while the proportion of strains resistant to several newer antibiotics has risen to between 10 and 30 per cent, such resistance to CHLOROMYCETIN "...has been rare even where this agent has been used extensively." Numerous other investigators concur in these findings.<sup>5-8</sup>

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is available in various forms, including Kapsals® of 250 mg., in bottles of 16 and 100.

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

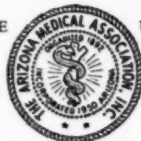
*References:* (1) Welch, H., in Welch, H., & Finland, M.: *Antibiotic Therapy for Staphylococcal Diseases*, New York, Medical Encyclopedia, Inc., 1959, p. 1. (2) Rebhan, A. W., & Edwards, H. E.: *Canad. M. A. J.* **82**:513, 1960. (3) Fisher, M. W.: *Arch. Int. Med.* **105**:413, 1960. (4) Finland, M., in Welch, H., & Finland, M.: *Antibiotic Therapy for Staphylococcal Diseases*, New York, Medical Encyclopedia, Inc., 1959, p. 187. (5) Bercovitz, Z. T.: *Geriatrics* **15**:164, 1960. (6) Glas, W. W., & Britt, E. M.: *Management of Hospital Injections*, in Symposium on Antibacterial Therapy, Michigan & Wayne County Acad. Gen. Pract., Detroit, September 12, 1959, p. 7. (7) *Staphylococcal Infections in Pediatrics*, Scientific Exhibit, Commission on Professional and Hospital Activities, 108th Ann. Meet., A. M. A., Atlantic City, June 8-12, 1959. (8) Robinson, H. M., Jr.; Robinson, R. C. V., & Raskin, J.: *Postgrad. Med.* **27**:522, 1960.

# Arizona Medicine

JOURNAL OF ARIZONA MEDICAL ASSOCIATION

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

September, 1960



Vol. 17, No. 9

## Table of Contents

### ORIGINAL ARTICLES

1960 AWARD WINNING PAPER — PERMANENT ANTICOAGULATION .....	499
Charles A. L. Stephens, Jr., M.D.	
BENIGN TUMORS OF THE BREAST .....	509
James J. Berens, M.D.	
SURGICAL PLANING FOR FACIAL SCARS .....	514
J. Walter Wilson, M.D.	
THE POLYCYSTIC OVARY SYNDROME .....	519
Robert B. Greenblatt, M.D. — Octavio Moreno Martinez, M.D.	

### ARIZONA MEDICAL ASSOCIATION REPORTS

THE PRESIDENTS PAGE — ARMA — Lindsay E. Beaton, M.D. ....	526
MEETING OF THE MEDICAL ADVISORY COMMITTEE — SOCIAL SECURITY	
ADMINISTRATION — Summary from the Secretary — Lorel A. Stapley, M.D. ....	528
COMMENDATION — Roland F. Schoen, M.D. ....	531
BOARD OF DIRECTORS MEETING — June, 1960 .....	531
ARIZONA AWARDS .....	535

### MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

FIFTH ANNUAL MEETING .....	536
----------------------------	-----

### EDITORIAL

THE CRISIS IN AMERICAN MEDICINE .....	538
THE PATIENTS WILL LOSE .....	540
PENNSYLVANIA MEDICAL SOCIETY PROGRAM .....	540
QUINCY DOCTORS FIGHT COLD WAR OF CLASSROOMS .....	542
ANTI-RADIATION PILL .....	542
NON-PARTICIPATION .....	542
LETTER TO THE EDITOR .....	543

### IN MEMORIAM

GEORGE L. DIXON, M.D. ....	544
----------------------------	-----

### TOPICS OF CURRENT MEDICAL INTEREST

HUMOR AND PATHOS OF PHYSICIANS PRACTICE IN A MEXICAN MINING CAMP ..	546
W. W. Watkins, M.D.	
TUBERCULOSIS IN PIMA COUNTY — 1959 — William G. Ure, M.D. ....	549
MEDICAL COURT CASES — Howard Newcomb Morse' .....	551
ARIZONA POISONING CONTROL INFORMATION CENTER —	
BITE OF THE KISSING BUG .....	552
ACCIDENT-SICKNESS DISABILITY INSURANCE PROGRAMS .....	553
AIR POLLUTION IN ARIZONA — Robert D. Smith, Jr. M.A. ....	554
NEW MEXICO PLANS MEDICAL SCHOOL .....	557
THE MEDICAL STUDENT, HIS FAMILY AND HIS COSTS .....	557

### REPRINTS

LET'S STOP FEEDING THE CROCODILE .....	559
HEALTH MANPOWER FOR THE FUTURE .....	561
THE "OPEN-NEGATIVE" PROBLEM .....	562

### FUTURE MEDICAL MEETINGS AND POSTGRADUATE EDUCATION

ARIZONA ACADEMY OF GENERAL PRACTICE CONVENTION .....	40A
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO .....	40A
SOCIEDAD MEDICA DE ESTADOS UNIDAS DE NORTEAMERICA Y MEXICO. ....	40A
NINTH ANNUAL CANCER SEMINAR .....	41A
AMERICAN COLLEGE OF SURGEONS .....	42A
COURSES ON MANAGEMENT OF MASS CASUALTIES ...	42A
THE AMERICAN COLLEGE OF PHYSICIANS .....	42A

### DIRECTORY

OFFICERS AND COMMITTEES .....	7A
SOCIEDAD MEDICA DE ESTADOS UNIDOS DE NORTEAMERICA Y MEXICO. ....	8A
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO .....	8A
WOMAN'S AUXILIARY .....	8A
INDEX TO ADVERTISERS .....	74A

Published monthly by the Arizona Medical Association, Inc. Business office at 1021 Central Towers Building, Phoenix, Arizona. Subscription \$5 a year, single copy 50 cents. Entered as second class matter March 1, 1921, at Postoffice at Phoenix, Arizona, Act of March 3, 1879.

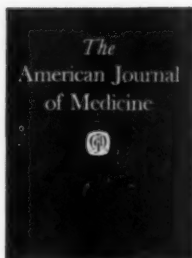
(The Editors of the Journal assume no responsibility for opinions expressed in the articles contributed by individual members.)

A. H. Robins'  
new Adabee —  
for the physician  
who has  
weighed the ...

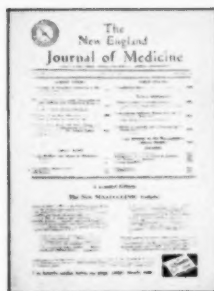
## MOUNTING EVIDENCE



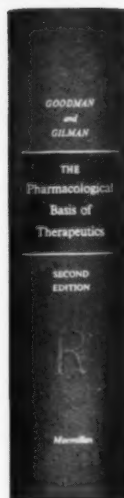
## AGAINST



## B<sub>12</sub> AND FOLIC ACID



## IN MULTI- VITAMINS



Individually, folic acid and B<sub>12</sub> fill important clinical roles.<sup>1</sup> But, increasing evidence indicates that multivitamins containing folic acid may obscure the diagnosis of pernicious anemia.<sup>2-7</sup> And vitamin B<sub>12</sub>, in indiscriminate and unnecessary usage<sup>5-8</sup> is likewise blamed for this diagnostic confusion.<sup>7</sup>

Both folic acid and B<sub>12</sub> have been omitted from Adabee, in recognition of this growing medical concern. Also excluded are other factors which might interfere with concurrent therapy, such as, hormones, enzymes, amino acids, and yeast derivatives. Adabee supplies massive doses of therapeutically practical vitamins for use in both specific and supportive schedules in illness and stress situations. Thus, new Adabee offers the therapeutic advantage of sustained maximum multivitamin support without the threat of symptom-masking.

**references:** 1. Wintrobe, M. M., *Clinical Hematology*, 3rd ed., Phila., Lea & Febiger, 1952, p. 398. 2. Goodman, L. S. and Gilman, A., *The Pharmacological Basis of Therapeutics*, 2nd. ed., New York, Macmillan, 1955, p. 1709. 3. New Eng. J.M., Vol. 259, No. 25, Dec. 18, 1958, p. 1231. 4. Frohlich, E. D., New Eng. J.M., 259:1221, 1958. 5. J.A.M.A., 169:41, 1959. 6. J.A.M.A., 173:240, 1960. 7. Goldsmith, G. A., American J. of M., 25:680, 1958. 8. Darby, W. J., American J. of M., 25:726, 1958.

## ADABEE®

Each yellow, capsule-shaped tablet contains:

Vitamin A	25,000 USP units
Vitamin D	1,000 USP units
Thiamine mononitrate (B <sub>1</sub> )	15 mg.
Riboflavin (B <sub>2</sub> )	10 mg.
Pyridoxine HCl (B <sub>6</sub> )	5 mg.
Nicotinamide (niacinamide)	50 mg.
Calcium pantothenate	10 mg.
Ascorbic acid (vitamin C)	250 mg.

## ADABEE® M

Each green, capsule-shaped tablet contains Adabee plus nine essential minerals:

Iron	15.0 mg.	Zinc	1.5 mg.
Iodine	0.15 mg.	Potassium	5.0 mg.
Copper	1.0 mg.	Calcium	103.0 mg.
Manganese	1.0 mg.	Phosphorus	80.0 mg.
Magnesium	6.0 mg.		

**indications:** As dietary supplements for the deficiency states that accompany pregnancy and lactation, surgery, burns, trauma, alcohol ingestion, hyperthyroidism, infections, cardiac disease, polyuria, anorexia, cirrhosis, arthritis, colitis, diabetes mellitus, and degenerative diseases. Also in restricted diets, particularly peptic ulcer, in geriatrics, and in concurrent administration with diuretics and antibiotics.

**dosage:** One or more tablets a day, as indicated, preferably with meals.

**new! ADABEE®**

the multivitamin without B<sub>12</sub> or folic acid

A. H. ROBINS COMPANY, INC.

Richmond 20, Virginia





Original Articles

# Arizona Medicine

Vol. 17, No. 9



September, 1960

## Permanent Anticoagulation

Charles A. L. Stephens, Jr., M.D., F.A.C.P.

Tucson, Arizona

### Presentation of Annual Award For Prize-Winning Paper

*Mr. Chairman, Members of the Association, Guests: Today the Association begins an observance that it hopes will become a yearly distinction for one of its members. To stimulate research and original clinical effort, it has been decided to make an award annually for the best scientific presentation by an Arizona physician. Papers entered in open competition are judged by the Scientific Assembly Committee, and the successful entry is to be read by the author during the Convention.*

*We conceive that winning this honor will come to be a mark of prime professional eminence. We believe also that there is particular notability in being the first name on the roster, in being the doctor who founds the tradition. Several fine manuscripts were submitted this year, but the victor was the unanimous choice of the judges. It is with a full sense of its fitness, therefore, that I tender this plaque of award on behalf of the Association and as a token of its commendation and admiration, for his outstanding contribution entitled "Permanent Anticoagulation", to Dr. Charles A. L. Stephens, Jr.*

*Lindsay E. Beaton, M.D., President*

**I**N 1946 the New York Chapter of the American Heart Association created a Committee on Anticoagulants to evaluate these agents in therapy of coronary thrombosis. This group, headed by Drs. Wright, Marple and Beck, undertook a controlled study of short term anticoagulant therapy. In their findings, mortality and morbidity of treated cases contrasted favorably with those of the controls. Anticoagulants for short term treatment of coronary thrombosis were at last of

documental value. The preliminary report of the Committee (1) was later expanded and published as a text book in 1954(2).

Those interested in the therapeutic value of anticoagulants were curious about their use in other thromboembolic conditions. Patients with cerebral thrombosis and thrombophlebitis were subjects of controlled investigations. The conclusions reached affirmed therapeutic usefulness in these conditions(3-7).

Collection and interpretation of data on the short term treatment of thromboembolism was a gigantic task. Long term treatment had to wait for long term evaluation. Only recently have investigators accumulated sufficient data over sufficient time to report significant numbers of controlled case studies from which justifiable conclusions may be drawn(8-17).

It is our purpose to review the mechanics of permanent anticoagulant therapy in thromboembolic disease with passing mention of various agents available; technics of laboratory determinations; results from our own experience in 281 cases; and results reported in the literature.

### INDICATIONS

Permanent anticoagulant therapy of thromboembolic disease is indicated whenever the etiology of the thromboembolism is irreversible and there is likelihood of recurrence. The most common states are as follows:

1. Arteriosclerotic cardiovascular disease

- (a) Coronary thrombosis and myocardial infarction
- (b) Coronary insufficiency
- (c) Cerebral thrombosis
- (d) Cerebral insufficiency, especially carotid or basilar arteries
- (e) Arteriosclerosis obliterans
- (f) Central retinal artery or vein thrombosis
- (g) Peripheral embolism

2. Arrhythmic heart disease with auricular fibrillation and auricular thrombi

3. Recurrent thrombophlebitis

4. Pulmonary hypertension

5. Miscellaneous

Permanent anticoagulant therapy in coronary atherosclerosis with occlusion and myocardial infarction has been the subject of considerable controversy. Russek and associates(18) have attempted to divide these patients into good risk and bad risk categories, even those on short term therapy. Others contend that coronary thrombosis is a treacherous disease, and only in retrospect can the good risk be separated from the bad risk cases(19,20). Prognosis in the untreated patients is poor. Levine(21) found 25% of patients died in the first year; 50% had died by the end of the second year; and 75% did not live more than five years. Manchester(13) reported 60% recurrent myocardial infarctions within five years. Bland and White(22) found a 75% mortality within 10 years.

A "first coronary" is often delineated from second and third coronaries. Pathologists repeatedly show us hearts with old scars of multiple infarctions. Coronary occlusion with myocardial infarction is a major cause of death and disability in the present phase of our civilization. Each year approximately 200,000 persons die from this cause in the United States. From 600,000 to 800,000 persons suffer attacks. The greatest personal and social significance of myocardial infarction lies in the large number of persons lost during their most productive years. Statistics tend to emphasize only the resultant deaths. A comprehensive review of loss must consider such serious residual disabilities as myocardial and coronary insufficiency and the results of embolization, hemiplegia, mesenteric occlusion, or the loss of a limb from gangrene(23).

Arrhythmic heart disease of congenital, rheumatic or atherosclerotic origin, usually victimizes patients in the younger age groups. Single or multiple emboli often cause tragic crippling or untimely death.

Phlebitis migrans or recurrent thrombophlebitis threatens fracture of the thrombus with often dramatic and fatal embolus. It has been shown by Wood and Conn(51) that permanent anticoagulant therapy may retard the downhill course of irreversible pulmonary hypertension by preventing secondary thrombo-obstructive lesions. It may be curative in subacute thromboembolic pulmonary hypertension.

In the miscellaneous group of conditions in which long term anticoagulation might be indicated, one might consider the Chiari-Budd syndrome of hepatic vein thrombosis, abdominal angina with threatened or actual mesenteric vascular occlusion, thrombotic thrombocytopenic purpura, polycythemia, visceral Buerger's disease, and a variety of other relatively rare conditions. The major common thromboembolic states for which permanent anticoagulation is clearly indicated are actual or threatened atherosclerotic arterial occlusions and arrhythmic heart disease with embolization.

Absolute Contraindications and Relative Contraindications to anticoagulant therapy are listed below:

**ABSOLUTE Contraindications:**

- 1. Duodenal or gastric ulcer
- 2. Gastric carcinoma, bleeding polypi or Meckel's diverticulum
- 3. Subacute bacterial endocarditis

4. Severe hypertensive disease
5. Cirrhosis of the liver
6. Hepatitis
7. Dissecting aneurysm of the aorta
8. Cerebral aneurysm
9. Cerebral hemorrhage
10. Preceding a traumatic operation such as transurethral resection
11. Vitamin C deficiency — scurvy
12. Blood dyscrasias interfering with blood clotting
13. Late pregnancy
14. Polyarteritis

**RELATIVE Contraindications:** Requiring caution in use of anticoagulants

1. Hypoprothrombinemia
2. Acute or chronic passive congestion of the liver (heart failure)
3. Thrombotic thrombocytopenic purpura
4. Before impending nontraumatic surgery
5. Renal insufficiency
6. Moderate hypertension

#### METHODS

There are three basic requirements which must be met prior to institution of permanent anticoagulant therapy. Before recommending that the patient embark on the voyage from home to laboratory, to work — and repeat for life, as is required in permanent anticoagulation — it is essential that whatever intelligence and cooperation he has shall be channelled and dedicated to his own service. It is not enough to

say: "You must do thus and thus." The art of the physician is required to alert the patient to his need, evoke his cooperation and explain the necessity for his all-out, focussed effort.

The second fundamental is a good laboratory. One wag has defined a good laboratory as one "manned by technicians with obsessive compulsive neuroses" because they do the most careful, meticulous prothrombin tests.

The third and last prerequisite is a physician who is thoroughly acquainted with at least one anticoagulant. He must know and understand the method of prothrombin determination used in his laboratory. He must be willing to persist in demanding accuracy and meticulousness on the part of the patient, on the part of the laboratory technician, and on the part of himself.

Marple and Wright(23) have written of the use and abuse of anticoagulants. In my own experience, I have seen patients with hemorrhage, in consultation, on whose order sheet the attending doctor had written "Dicumarol, one tablet after meals and at bedtime." Abuse of anticoagulants, and ignorance of the pharmacology of anticoagulant drugs lead to statements, oral or written, of: "It's not safe," "It doesn't work." Or "I have quit using it." As we shall see, the weight of experience is against these dicta. Anticoagulant therapy is an effective, safe procedure if the three basic requirements are met: An alerted patient. A meticulous laboratory. And an informed doctor.

TABLE I

Generic Name	Trade Name	Route of Administration	Usual Dosage	Latent Period	Time To Reach Maximum Effect	Duration of Effect
Phenindione	Danilone	oral	Initial: 2-300 mg.		48-60 hours	48-60 hours
	Hedulin		Maintenance: 50-100 mg.O.D.			
Bishydroxycoumarin	Dicumarol	oral	Initial: 300 mg. Maintenance: 50-200 mg.O.D.	24 hrs.	60-96 hours	5 days
Ethyl biscoumacetate	Tromexan	oral	Initial: 1500-2000 mg. Maintenance: 600-1200 mg.O.D.	8-12 hrs.	48-60 hours	48-60 hours
Warfarin sodium	Coumadin	Oral Intravenous Intramuscular	Initial: 50 mg. Maintenance: 5-10 mg.O.D.	8-12 hrs.	36 hours	3 days

#### SELECTION OF DRUGS:

For permanent anticoagulation, there are two classes of drugs available, the coumarins and the

phenadiones.

For long term treatment my own experience has been good with Dicumarol because its long

recovery period helps to maintain a steady state. Warfarin Sodium (Coumadin) comes closer to the ideal *short term treatment*. There is reported to be a higher sensitivity to the antidote Vitamin K with Coumadin. The virtues and vices of the different oral anticoagulants are perhaps less distinct than our friends in the pharmaceutical industry would have us believe.

Tromexan, another "shorter recovery" drug similar to Warfarin, was compared with Dicumarol by Scarrone and his associates (24) over 6,642 and 5,006 patient days respectively. They state: "More of the thromboembolic complications under Tromexan occurred when prothrombin times were below the optimal therapeutic range than those under Dicumarol." They concluded: "Control of the lower limits of therapeutic range presents more of a problem with Tromexan than with Dicumarol."

For the purposes of long term administration, a smoother, more controlled effect may be given by the longer recovery drug, Dicumarol. Whether the greater predictability of Coumadin cancels out this factor requires more study. In any event, it is wise for the practicing physician to select one anticoagulant, as he selects one digitalis preparation, and then to become thoroughly familiar with its characteristics.

Heparin is of no value for permanent anticoagulant therapy because it cannot be taken by mouth. Heparin as a "clearing factor" for lipemic serum is, of course, not directed toward anticoagulation. In this use, it may be given either by subcutaneous injection or via the sublingual routes.

### DOSAGE

The initial dose for each of the oral anticoagulants is well standardized: viz. 50 mg. for Coumadin, 300 mg. for Dicumarol. Maintenance dosages are quite individual and vary not only from person to person, but even in the same person from time to time. I have studied the average daily requirement of Dicumarol in a patient on continuous anticoagulant therapy for the past 14 years. The variations range from 37.5 mg. in 1951 to 75 mg. in 1953. At the present time, the patient is averaging 57.5 mg. per day.

There are both endogenous and exogenous factors which cause increased and decreased response anticoagulant therapy, as follows:

### INCREASED RESPONSE

<i>Endogenous</i>	<i>Exogenous</i>
Liver insufficiency	Salicylates — 1 Gm./day
Nutritional State	Phenylbutazone
Diarrhea	Sulfonamides
Undernutrition	Antibiotics
Febrile Disease	Restricted diets
Congestive heart failure	Low protein
Renal disease	Low Vitamin C.
	Prolonged hot weather
	Drugs affecting blood elements
	Quinidine
	Hepatotoxic agents
	Decreased physical activity

### DECREASED RESPONSE

<i>Endogenous</i>	<i>Exogenous</i>
Edema	Alcohol
Hyperlipemia	Vitamin K in
Diabetes	multivitamins
Pancreatic malignancy	Antihistamines (?)
Pregnancy	Corticotropin &
	Corticosteroids
	Mineral oil
	Digitalis
	Increased physical activity

In addition to these known agents influencing response, there are unknown or unappreciated factors to consider: absorption of the drug from the gut may vary from time to time; dietary Vitamin K precursor undoubtedly is different at different seasons of the year, Lent for example; gastrointestinal microbial synthesis of Vitamin K precursor must fluctuate with a variety of stresses from daily living or from drug administration, such as antibiotics. These variables have not yet been fully investigated.

For the past two years, in an attempt to cancel out the variables, I have carried ten patients on Dicumarol plus oral Vitamin K-1 (Mephyton). Although this group is too small to justify any conclusions, there has been a remarkable stability of the prothrombin response in this group to a relatively constant dose of Dicumarol. Further investigation in the combined use of an anticoagulant and its antidote seems indicated.



### THE PROTHROMBIN TEST AND ITS INTERPRETATION

It is now accepted by most "coagulationists" that a prolonged Quick One Stage prothrombin time (when the fibrinogen is normal) induced by anticoagulants is a primary deficiency in Factor VII and prothrombin(25).

The original Quick One Stage method, the modification by Link and Shapiro, the subsequent Manchester test, and the Owren bedside modification, all have their supporters and their critics. It has been our practice for the past 14 years to use the Link-Shapiro modification of the Quick method, with results reported in seconds. We have seen no reason to alter this, or to adopt different technics. The Link-Shapiro results are reported in seconds(26) and in our opinion, the desired therapeutic level is 2-2½ times the control. Some authors(27,28) hold that 1-1½ times the control is satisfactory for long term anticoagulation, but supporting statistics are lacking.

The danger of anticoagulant therapy lies not in hemorrhage — a reversible complication; but in clotting — an irreversible state. Should bleeding occur from too much, the antidote Vitamin K can be administered. If necessary, a transfusion of whole blood can be given, but should clotting occur, we find ourselves without any effective thrombolytic agent. Therefore, it seems logical to accept the dictum that conservative anticoagulation is too much, rather than too little. In our experience, keeping the patient at 2-2½ times the control, does not result in greater incidence of hemorrhage than those reported series in which 1-1½ times the control has been employed as the therapeutic level. Our thromboembolism frequency appears to be somewhat less.

The interpretation of the prothrombin time presupposes specific knowledge on the part of the physician regarding:

- 1) The quality and stability of the thromboplastin used
- 2) The dilution curve of the thromboplastin and
- 3) The method of reporting the results.

There are available commercially a variety of thromboplastins. Most of these are derived from rabbit lungs. Many of them have the proper electrolyte concentrations already added. Soluplastin, Simplastin, Acutel are trade names of materials in common use. Methods of manufacture varying the amount, size and distribution of

suspended solids in the preparation will shorten or lengthen the clotting end point, as desired (29,30). Standardized preparations having the optimum particle size and distribution are available. They give prothrombin times that are consistently precise when used on normal and patient plasma. Almost all prothrombin determinations at present employ the "short time" thromboplastins, which give prothrombin time normals of from 12-15 seconds. Further, these standardized thromboplastins have been the basis for establishing the therapeutic range of from 2-2½ times the normal prothrombin time in controlled anticoagulant therapy(31).

However, thromboplastins do vary from lot number to lot number and from company to company. It, therefore, is necessary to know the dilution curve of the particular thromboplastin used and to determine whether or not 2-2½ times the control represents 10-30% prothrombin activity. Every technician should make his own curve comparable to average value curves published by the manufacturer. Every technician should recheck points on this curve frequently. Sources of error arise from several factors: attempts to store thromboplastin in the deep freeze for too long a time, a change in Lot Numbers, holding the patient's plasma for too long before it is tested, etc. Accuracy and attention to details can hardly be overemphasized, when we appreciate that the laboratory report is the only guide we have to anticoagulation.

Prothrombin times may be reported in seconds, in percent of normal, in percent of prothrombin activity, or in percent of Dicumarol activity. This confusion can easily be avoided if one requests a report of the control and the patient in seconds. Interpretation then is merely a question of familiarity with the dilution curve for that particular thromboplastin. Percent prothrombin activity is an acceptable laboratory report also, if the activity curve of the thromboplastin in use, and the time value of a given percentile at different degrees of dilution are thoroughly familiar to the interpreter.

Shapiro and Ciferri(32) and Watson(33) have stated that a delay of 24 hours after drawing a sample of blood does not have any significant effect on the prothrombin time, as determined for that sample. Our own laboratory has noted progressive prolongation of the prothrombin time after the first 30 minutes. After three hours, our values exhibit errors up to plus or



minus 50%. Therefore, in our own laboratory, prothrombin times are determined within one hour of venipuncture.

#### CLINICAL DATA

Permanent anticoagulant therapy has been administered for the past 14 years to 281 patients suffering from thromboembolic diseases. Prior to treatment, there were 329 thromboembolic episodes in 281 patients. In these 180 males and 101 females with ages ranging from 16 to 88 years, pretherapy thromboembolism occurred as follows:

DISEASES	No. of Episodes
Coronary thrombosis	168
Impending coronary thrombosis	9
Cerebral thrombosis	52
Cerebral insufficiency	28
Auricular fibrillation with intra-auricular thrombosis and embolization	29
Peripheral arterial occlusion	16
Recurrent thrombophlebitis	15
Buerger's disease	6
Central retinal vein thrombosis	2
Mesenteric thrombosis	3
Hepatic vein thrombosis	1
	<hr/> 329

#### DURATION OF TREATMENT

The average patient has been on anticoagulant therapy for three and one-half years, with a range in this series from one to 14 years. Patient distribution over the past 14 years represents a total of 1,244 patient years of treatment.

**Hemorrhage:** Twenty-three patients of the entire group of 281 (8%) suffered major bleeding at one time or another in the course of their treatment. There were four deaths due to cerebral hemorrhage, probably due to drug-induced hypoprothrombinemia. One patient died from the Winternitz phenomenon of coronary subintimal hemorrhage with occlusion. Myocardial rupture with hemopericardium occurred in two patients. The mortality rate from excessive anticoagulation was seven patients (2.5%) of the 281 patients studied.

**Thromboembolism:** Nineteen further thromboembolic episodes occurred (6.8%) while under anticoagulant treatment. Of these, nine were fatal recurrent coronary thromboses, 3 non-fatal coronary thromboses, four were further cerebral thromboses, one was thrombophlebitis and pul-

monary embolus, and the remaining two were recurrent emboli from intra-auricular thrombi in fibrillating hearts.

**Non-Thromboembolic Mortality:** Carcinoma, accidents, heart failure and the the usual expected fatal diseases, unassociated with thromboembolism, accounted for 113 deaths (40%) of the total group followed from one to 14 years.

**Discontinuance of Treatment:** Thirty-six patients discontinued treatment for a variety of reasons. Recurrent bleeding necessitated discontinuance in five cases. Change in geographic location required cessation of treatment in 19 cases. Twelve patients became tired with the procedure and stopped treatment against advice.

Of special interest are 15 patients who stopped anticoagulation on advice because of necessary surgery. Of these, six suffered fatal thromboembolism within one week. Whether this is a "rebound phenomenon" or whether this represents the severe degree of the basic disease is unknown. Autopsy studies, however, revealed severe atherosclerosis. The vessels would admit into their lumens only a common pin.

It is now our practice not to discontinue all anticoagulants, but to employ intermittent intravenous heparin during all save the immediate operative period. In this connection, Wise (34) reported on 3,304 patients given Dicumarol just before surgery. The results were compared to 9,250 cases in which anticoagulants were not used. Mild bleeding developed in 2% of the cases and was easily controlled. In the treated group there was one death not due to Dicumarol therapy, and one case of non-fatal embolism. In the untreated group, there were 13 deaths and 28 cases of embolism.

For minor surgery, including dental extractions, it has not been found necessary to discontinue anticoagulation. Forty-one patients in our experience have now had dental extractions without serious untoward effects. Nuisance bleeding may occur but pressure and, if necessary, thromboplastin powder sprinkled on the empty socket has easily controlled any abnormal bleeding.

We have available no controls on these cases. Therefore this series has no statistical validity unless compared with published control figures, which is a questionable practice. It is our conviction, however, that permanent anticoagulation is a practical and effective prophylaxis for thromboembolic disease. Others have published studies

from which statistically supported conclusions can be drawn and these reports are worth our inspection.

#### REPORTED RESULTS

In 1947, Nichol and Fassett(35) reported "An Attempt to Forestall Acute Coronary Thrombosis: Preliminary Note on the Continuous Use of Dicumarol." This was a cautious suggestion and the first to appear in the literature. Three years later Rice and his coworkers(36) reported two cases of long term Dicumarol therapy, one of whom had numerous episodes of myocardial infarctions and coronary insufficiency. This patient remained on Dicumarol for three months. It was then discontinued and another attack occurred six weeks later. Dicumarol was reinstituted for two years without untoward episodes. The other patient, one of the authors, was treated with Dicumarol continuously for fifty-one months without complications.

By 1950, Nichol and Borg(37) reported experiences with 78 patients on long term Dicumarol treatment. Although their impression was "continuous use of Dicumarol over a period of years is feasible and relatively safe" they recognized the need for long term cooperative study by larger groups to prove its value.

Gilbert and associates(38) reported continuous anticoagulation in 78 patients from 1944 to 1950. Of these 78, 12 died, but only four had recurrent thromboses. Nine patients discontinued

therapy, but 57 remained on the regimen and were doing well at the time of the report.

Wright and Foley(39) reported eleven patients with thromboembolism from arrhythmic heart disease followed for a total of 75 months without an embolus.

Cosgriff(2) reported his personal experiences with thromboembolism, and concluded that long term anticoagulation is of value.

These early anecdotal reports suffered from too few cases followed over too short a time. But this evidence accumulated through the early 1950's formed the basis for later, more comprehensive reports.

Owren(40) reported his technic and his results in the long term treatment of 236 patients with coronary thrombosis in 1954. Tulloch and Wright reported(41) their results with a similar group. Both sets of workers were convinced that this form of treatment was worth pursuing.

Keyes and Drake(8) studied 71 patients who had a single myocardial infarct and 50 who had recurrent infarcts. These patients received anticoagulant treatment for up to five years. They concluded that in the single infarct group, the death rate was three times greater without anticoagulant treatment than with. In the recurrent infarct group, the death rate was five times greater without anticoagulation.

Numerous other reports appeared in the second half of 1950. Some of these studies, such as

**TABLE II**  
**Characteristics of Groups Studied:**

	Anticoagulant Group		Control Group	
No. Patients	204		200	
Age — Average	59		59	
Range in Years	31	92	39	88
Sex:	#	%	#	%
Males	156	76.4	148	74.0
Females	48	23.5	52	26.0
Prev. Infarcts	51	25.0	40	20.0
Risk: Poor	151	74.1	143	71.5
Good	53	25.9	57	28.5
Digitalized	32	15.6	66	33.0

**Incidence and Mortalities with Subsequent Complications — 1-10 years**

	Anticoagulant Group				Control Group			
	Incd.	%	Mort.	%	Incd.	%	Mort.	%
Myocardial Infarction	29	14.2	6	20.6	68	34.0	36	53.0
Cardiac Decomp.	43	19.7	8	18.6	72	36.0	33	45.8
Thromboembolism	14	5.8	2	14.2	35	17.5	16	45.7
Hemorrhage	6	2.9	0	0	0	0	0	0
	16		7.8		85		42.5	

From: Manchester, B.: The value of continuous long term anticoagulant therapy, *Ann.Int.Med.* 47:1202 (Dec.) 1957

the author's(42,43) could not, because of the exigencies of private practice, include any adequate control series. But each author concluded that long term anticoagulant therapy salvaged an appreciable number of patients, and urged its use by their colleagues.

In 1958, Nichol(14) reported the cooperative study of 10 physicians in 10 different parts of the United States on 1,091 patients with coronary artery disease on long term anticoagulant therapy. The average patient remained on treatment 22.4 months, with a range extending from 1-8 years. In the treated group, the mortality was 6.2%. In the control group of 319 patients who abandoned treatment, the mortality was 28.2%. In another control group of 417 patients not treated with anticoagulants, the mortality was 37.4%.

Manchester(13) reported a 1-10 year study of continuous long term anticoagulant therapy in 404 patients with one or more myocardial infarctions, representing 204 treated cases with 200 controls.

As can be seen, Manchester's figures reveal a preponderance of male patients, twice as many with previous infarctions and parallel values for age, sex, digitalization and other factors between the treated and control group. Table II shows a marked difference in subsequent myocardial infarctions: 14% in the treated, as against 34% in the untreated group. A comparable difference in the other thromboembolic complications of 5.8% in the treated group as against 17.5% in the controls, of which only 14% were fatal in the treated, as against 45.7% in the untreated group.

Studies of the year in relation to subsequent myocardial infarction, point out the special dangers of the first four post-infarction years, and the age of the patient compared to subsequent infarction exhibits striking differences between treated and controlled cases at all ages.

Manchester also noted improvement in the incidence of angina in the treated group. This phenomenon was also noted by Nichol(14) and Waaler(44). This may be explained by H. P. Wright and her associates(45) who demonstrated the recanalization influence of prothrombin depression.

Toohy(6) reported 226 cases of coronary thrombosis followed from six months to four years. One hundred and seventeen of these patients remained on anticoagulants. The mortality rate in six months in the treated series was 1.7%

as compared to 11.3% in the control group. At the end of 12 months, the mortality rate of the treated group was 3.0% compared with 18.3% for the untreated patients. In 18 months, the mortality rate was 11.6% compared to 24.3% in the control series.

Suzman(46) speaking before the Association of Physicians of Africa, gave statistics from a study of 1461 cases of coronary thrombosis followed from 1-10 years. Group A consisted of 399 patients who received continuous long term anticoagulant therapy. Group B consisted of 164 patients in whom anticoagulant therapy was discontinued. Group C was a control group of 898 patients who received short term treatment only. Results in terms of fatality rate were as follows:

	% Fatalities
Group A—Continuous anticoagulant therapy .....	16.8
Group B—Discontinued anticoagulant therapy .....	31.7
Group C—Short term anticoagulant therapy .....	44.5

Siekert and Milliken(47) have called our attention to the syndromes of carotid artery and basilar artery insufficiency. Their experience with long term use of anticoagulants is most impressive.

The most comprehensive evaluation of prolonged anticoagulant therapy in cerebrovascular disease is reported by Wright and associates. A total of 57 patients were observed with on-and-off anticoagulant treatment. Thirty-one of this group had intramural thrombi, either due to rheumatic heart disease with auricular fibrillation or arteriosclerotic heart disease with myocardial infarction. Nineteen had arteriosclerosis cerebri, and seven had hypertension or other cerebral diseases. Results were as follows:

No Treatment	Duration	Thromboembolic Cerebral Episodes
57 patients	795 patient months	205
Anticoagulants		
57 patients	1,162 patient months	23

Compared by a ratio on the basis of 1,000 patient months, the figures would run somewhat as follows: in the treated cases, there were 22 total thromboemboli. Untreated, these same patients would have had 350 total thromboemboli. The treated patients had 7 cerebral thromboemboli. Untreated patients would have had approximately 150 thromboemboli.

#### DISCUSSION

We have before us, then, large series of cases followed for long term with adequate controls, reported by investigators in the United States and abroad. Their conclusions all justify the con-

cept that permanent anticoagulation is indicated(50) whenever the etiology of thromboembolism is irreversible and there is likelihood of recurrence.

Our present drugs and method of control leave much to be desired. The ideal anticoagulant is not yet available. Stringent demands are placed upon both doctor and patients because of unpredictable effects from person to person — and even in the same person from time to time. There is total dependence upon a laboratory method subject to considerable error, and there is the relatively narrow range of therapeutic levels with which to contend. Even with the best of efforts, all series have a distressing percentage of failures. Yet, it is clear that many patients have been, and can be spared the penalty of death or disability.

Some of the newer, and as yet unproven approaches to the problem are of course the efforts to prevent and to reverse arteriosclerosis. The questions of diet, sodium-potassium ratios, activity, stress, and other factors, remain controversial etiologic factors in this disease. Until we have an effective method of both prevention and reversal of atherosclerosis, thromboembolism will remain with us.

Fibronolytic agents have been the subject of intensive investigation. Innerfield(48) and others have maintained that Chymotrypsin of pancreatic origin may be of value in the dissolution of thrombi. Others have been unable to support this concept. Plasmin is under investigation at the present time and may prove to be a valuable blood derivative for fibrinolysis. However, the untoward reactions and the limited dosages permitted, together with the necessity to administer the preparation almost immediately after the formation of thrombi, may possibly limit its value.

Various surgical procedures to relieve atherosclerosis and its complications hold considerable promise. The work of DeBakey and Cooley(49) in aortic, carotid and vertebral artery homografts, appear to be successful procedures in selected cases.

Coronary anarterectomy still has too high a mortality rate for broad usage, and cardiac omentopexy or talcum pericarditis have not gained favor. Auricular appendage amputation in rheumatic auricular fibrillation with thromboembolism is now almost routine in mitral commissurotomy. In selected cases, it may obviate

the necessity of long term anticoagulation.

Research for predictable anticoagulants which do not require laboratory control continues. As more knowledge is gained concerning the mechanisms of blood clotting, the ideal anticoagulant may one day be found.

#### SUMMARY AND CONCLUSIONS

1. Evaluation of present day anticoagulation therapy has been reviewed historically.
2. The indications and contraindications for permanent anticoagulant therapy have been listed.
3. The pharmacological effects of anticoagulants and their methods of control have been outlined.
4. Clinical results with anticoagulants both in the United States and abroad have been summarized.
5. Experimental methods for the treatment of thromboembolism have been briefly reviewed.
6. Based upon investigations already in the medical literature and upon the author's personal experience, it is justifiable to conclude that permanent anticoagulant therapy is a practical and useful procedure.

#### BIBLIOGRAPHY

1. Wright, I. S., Marple, C. D., and Beck, D. F.: Report of the committee for the evaluation of anticoagulants in the treatment of coronary thrombosis with myocardial infarction, *Am. Heart J.* 36:801 (Dec.) 1948.
2. Wright, I. S., Marple, C. D., and Beck, D. F.: Myocardial Infarction; Its Clinical Manifestations and Treatment with Anticoagulants; a Study of 1031 Cases, New York, Grune & Stratton, 1954.
3. Barker, N. W., Hines, E. A., Kvale, W. F., and Allen, E. V.: Dicumarol — its action, clinical use and effectiveness as an anticoagulant drug, *Am. J. Med.* 3:634, 1947.
4. Cosgriff, S. W.: Present status of the problem of thromboembolism, *Am. J. Med.* 3:740 (Dec.) 1947.
5. Zilliacus, H.: On the specific treatment of thrombosis and pulmonary embolism with anticoagulants with particular reference to post-traumatic sequelae; results of 5 years treatment of thrombosis and pulmonary embolism at a series of Swedish hospitals, 1940-1945, *Acta med. Scand.* 171:221, 1946.
6. Nichol, E. S.: The use of anticoagulants in the treatment and prevention of coronary artery disease and myocardial infarction, *New Orleans Med. & Surg. J.* 102:289 (Dec.) 1949.
7. Nichol, E. S., Phillips, W. C., and Jenkins, V. E.: Anticoagulants in coronary heart disease, *Med. Clin. North America*, 38:399 (March) 1954.
8. Keyes, J. W., Drake, E. H., and Smith, F. J.: Survival rates after acute myocardial infarction with long term anticoagulant therapy, *Circulation*, 14:254 (Aug.) 1956.
9. Tanzi, F., and Van Ness, A. L.: Long term anticoagulant therapy of the ambulatory patient following myocardial infarction, *Med. Clin. North America*, January, 1957.
10. Olwin, J. H., and Oglesby, P.: Long term anticoagulant therapy, *Surg., Gynec. & Obst.* 105:61 (July) 1957.
11. Olwin, J. H., and Koppel, J. L.: Practical aspects of long term anticoagulant therapy, *Arch. Int. Med.* 100:842 (Nov.) 1957.
12. Putnam, W. F.: Long term anticoagulant therapy, *GP* 16:79 (Dec.) 1957.
13. Manchester, B.: The value of continuous long term anticoagulant therapy, *Ann. Int. Med.* 47:1202 (Dec.) 1957.
14. Nichol, E. S., Keyes, J. N., Borg, J. F., Coogan, T. J., Boehrer, J. J., Mullins, W. L., Scott, T., Page, R., Griffith, G. C., and Massie, E.: Long term anticoagulant therapy in coronary atherosclerosis, *Am. Heart J.* 55:142 (Jan.) 1958.
15. Friedberg, C. K.: A critical appraisal of anticoagulants for short term and long term use in the management of myocardial infarction with systemic arterial embolism, *New York Med. J.* 58:1303 (April 15) 1958.
16. Tooley, M.: Long term anticoagulant therapy for coronary thrombosis, *Brit. Med. J.* 2:473 (Aug. 23) 1958.
17. Olwin, J. H.: Principles of anticoagulant therapy and their application, *Med. Clin. North America* 39:227 (Jan.) 1955.
18. Russek, H. I., Zohman, B. L., Doerner, A. A., Russek, A. S., and White, L. G.: Indications for bishydroxycoumarin



- (Dicumarol) in acute myocardial infarction, *Circulation* 5:707 (May) 1952.
19. Gilchrist, A. R., and Tulloch, J. A.: Anticoagulants in coronary disease, *Brit. Med. J.* 2:270, 1954.
  20. Conrad, F. G., and Rothermick, N. O.: A clinicopathological study of acute myocardial infarction and the role of anticoagulation therapy, *A.M.A. Arch. Int. Med.* 103:421 (March) 1950.
  21. Levine, S. A.: *Clinical Heart Disease*, Philadelphia, 4th ed., 1952, W. B. Saunders Co., p. 1116.
  22. Bland, E. F., and White, P. D.: Coronary thrombosis (with myocardial infarction) 10 years later, *J.A.M.A.* 117:1171 (Oct. 4) 1941.
  23. Marple, C.D., and Wright, I. S.: *Thrombotic Conditions and Their Treatment with Anticoagulants*, Springfield, 1950, Charles C. Thomas, p. 309-316.
  24. Scarrone, L. A., Beck, D. F., and Wright, I. S.: Comparative evaluation of Tromexan and Dicumarol in the treatment of thromboembolic conditions, based on experience with 514 patients, *Circulation* 6:489 (Oct.) 1952.
  25. Quick, A. J., in Wright, I. S.: The discovery and early development of anticoagulants, an historical symposium, *Circulation* 19:73 (Jan.) 1959.
  26. Shapiro, S., Sherwin, B., Redish, M., and Campbell, H. A.: Prothrombin estimation: a procedure and clinical interpretation, *Proc. Soc. Exper. Biol. & Med.* 50:85 (May) 1942.
  27. Griffith, G.: Personal communication to the author.
  28. Nicholson, J. H.: Clinical experience with anticoagulants, a comparison of Coumadin and Dicumarol, *Angiology*, 8:456 (Oct.) 1957.
  29. Fisher, C. V.: *Current Comments No. 4*, New York, Endo Products.
  30. Phillips, G. E., and Lenahan, J. G.: Effect of suspended solids in thromboplastin preparations upon prothrombin determinations, *J. Lab. & Clin. Med.* 46:713 (Nov.) 1955.
  31. Fremont, R. E., and Jagendorf, B.: Clinical observations on use of Coumadin, a new anticoagulant, *J.A.M.A.* 165:1381 (Nov. 16) 1957.
  32. Shapiro, S., and Ciferri, F. E.: Intramuscular administration of the anticoagulant Warfarin (Coumadin) Sodium, *J.A.M.A.* 165:1377 (Nov. 16) 1957.
  33. Watson, H.: Delayed prothrombin estimation in out-patient anticoagulant therapy, *Lancet* 1:541 (April 28) 1956.
  34. Wise, W. D., Loker, F. F., and Brambel, C. D.: Effectiveness of Dicumarol prophylaxis against thromboembolic complications following major surgery, *Surg., Gynec. & Obst.* 88:486 (April) 1949.
  35. Nichol, E. S., and Fassett, D. W.: An attempt to forestall acute coronary thrombosis; preliminary note on the continuous use of Dicumarol, *South. Med. J.* 40:631, 1947.
  36. Rice, R. L., Ackerman, J. S., and Saichek, R.: Long term Dicumarol therapy, *Ann. Int. Med.* 32:735 (April) 1950.
  37. Nichol, E. S., and Borg, J. F.: Dicumarol therapy to prevent recurrent coronary artery thrombosis, *Circulation* 1:1097 (May) 1950.
  38. Gilbert, N. C., Fenn, G. K., and Nalefoski, L. A.: The role of coronary vasodilating drugs in coronary occlusion, Read in Section on Internal Medicine, A.M.A. Meeting, Atlantic City, June 8, 1949.
  39. Wright, I. S., and Foley, W. T.: Use of anticoagulants in treatment of heart disease with special reference to coronary thrombosis, rheumatic heart disease, with thromboembolic complications and subacute bacterial endocarditis, *Am. J. Med.* 3:718 (Dec.) 1947.
  40. Editorial: Long term anticoagulant treatment in coronary artery disease, *Lancet* 1:417 (Feb.) 1958.
  41. Tulloch, J., and Wright, I. S.: Long term anticoagulant therapy - further experiences, *Circulation* 9:823 (June) 1954.
  42. Stephens, C. A. L., Jr.: Anticoagulant therapy in private practice, *Circulation* 9:682 (May) 1954.
  43. Stephens, C. A. L., Jr.: Cerebrovascular disease, *Arizona Med.* 13:265 (July) 1956.
  44. Waaler, B. A.: The effect of permanent anticoagulant therapy on symptoms and mortality in angina pectoris, *Acta med. Scand.* 157:289 (May) 1957.
  45. Wright, H. P., Kubik, M. M., and Hayden, M.: Recanalization of thrombosed arteries under anticoagulant therapy, *Brit. Med. J.* 1:1021 (May 9) 1953.
  46. Suzman, M. M.: *World Wide Medical News Service*, April 8, 1959, Scope.
  47. Siekert, R. G., and Millikan, C. H.: *Proc. Staff Meet. Mayo Clinic* 30:44, (Feb. 23) 1955.
  48. Innerfield, I.: *Monograph: Proteolytic Enzymes*, Ann. New York Acad. Science 68: 167 (Aug. 30) 1957.
  49. DeBakey, M. E., Cooley, D. A., Crawford, E. S., and Morris, G. C., Jr.: Clinical application of a new flexible knitted dacron arterial substitute, *Am. Surgeon* 24:862 (Dec.) 1958.
  50. Seaman, A. J.: Long term continuous anticoagulant therapy of coronary artery disease, *Modern Concepts of Cardiovascular Dis.* 28:553 (Sept.) 1959.
  51. Wood, J. C., and Conn, H. L., Jr.: Prevention of systemic arterial embolism in chronic heart disease by means of protracted anticoagulant therapy, *Circulation* 10:517 (Oct.) 1954.
- The author acknowledges with appreciation the invaluable assistance of Miss Margaret L. Doorly in preparation of this manuscript. C.A.L.S.-Jr.

To get just one drug that is suitable for clinical investigation, an average of 60 substances is prepared and tested biologically by the nation's pharmaceutical companies.

This is reported in the current issue of *Patterns of Disease*.

A total of 114,600 substances was tested in 1958 by pharmaceutical companies for medical research purposes. Of these, 50,300, or 44%, were concerned with allergy and infectious diseases; 28,000 with cancer; 12,000 with mental health, neurological diseases and blindness; and 8,200 with heart disease.

In the same year, 44 completely new pharmaceutical agents were marketed, only 16 of which came from sources outside the United States.

Research and development expenditures by pharmaceutical companies last year totaled \$190,000,000 - 50% more than in 1957.



## Benign Tumors of the Breast

James J. Berens, M.D.

Phoenix, Arizona

*Benign tumors of the breast are discussed in the light of their clinical manifestations and management. The essential features of each type are reviewed. The basic problem in treatment is the establishment of the benign nature of the tumors.*

**T**HE BREAST is a skin appendage consisting essentially of a modified sweat gland. It is made up of 15 to 20 lobes, each of which connects to an opening on the nipple by a lactiferous duct. The ducts branch many times and eventually terminate in acini. Ducts and acini are surrounded by a specialized loose connective tissue. Before puberty the breast parenchyma consists entirely of ducts. At puberty, under the influence of estrin, active budding of ducts occurs with formation of acini. During pregnancy and lactation the breast consists of large masses of glandular tissue that almost entirely replaces the fatty tissue.

The more common benign tumors of the breast include the group which are true neoplasms and an assorted group which are non-neoplastic processes. The latter will be considered first.

Cystic disease (chronic cystic mastitis, chronic mastitis, Schimmelbusch disease, cystadenoma) is the most common lesion of the breast. For descriptive purposes the disease is divided into three general types depending on the predominance of tissue structures: 1. Cystic type: con-

sisting mainly of one or more cysts; 2. Adenofibrous type: in which fibrous tissue predominates with scattered cystic and acinar areas; and 3. Hyperplasia (Schimmelbusch disease): with prominent true epithelial hyperplasia of the pink staining epithelium, which is probably apocrine glandular tissue, but often referred to as sweat gland epithelium.

Cystic disease occurs most frequently at 30 to 45 year age levels, never before puberty, and only occasionally after the menopause. Clinical lesions may be asymptomatic except for the presence of a palpable tumor or may be accompanied by pain and tenderness. Pain and tenderness are present or increased during the premenstrual phase and are more apt to occur when the cysts are rapidly enlarging. Pain is probably related to the tension of fluid in the cyst, as aspiration of the fluid relieves the pain. Cysts may be single but usually are multiple. The size of the cystic mass may fluctuate. Increase in size is common at the premenstrual phase. Spontaneous clinical disappearance of cysts may occur.

Palpation discloses one or more lumps. Large cysts are usually hard, smooth, freely movable tumors. Adenofibrous and Schimmelbusch types often give the breast a generalized firmness and shotty nodularity on examination. Nipple retraction and axillary lymphadenopathy are rare with cystic disease of the breast.

Diffuse firmness or generalized shotty nodularity requires no surgical treatment. Aspiration of cystic fluid contents followed by disappearance of the tumor can be utilized as definitive treatment particularly in recurrent cysts. Safest management is surgical excision of all discrete tumors.

Adenosis is a benign multiplication of mammary ducts and acini. Such changes may be intermingled with the intraductal epithelial proliferation of various types and with cysts of all sizes. Adenosis may form a single hard tumor which may be attached to the skin and be indistinguishable on gross examination from carcinoma. Varying amounts of fibrosis may involve these glandular elements and give the appearance of streaming out into the stroma — thus the name sclerosing adenosis. Excision with histological verification of its benign nature is the treatment.

Comedomastitis and plasma cell mastitis are rare, but achieve clinical importance because of physical findings which are similar to carcinoma. These lesions are characterized by dilatation of the ducts which contain inspissated material which can be expressed from the cut ends of the ducts much as toothpaste is extruded. They often exist as hard, poorly defined tumors with the consistency of carcinoma. The disease involves the larger ducts in contrast to cystic disease which more typically occurs in the acini and smaller ducts.

In comedomastitis the cheesy material produces stasis in the ducts and enlargement of the ducts. Comedomastitis is often associated with other breast diseases. Periductal inflammatory changes occur that often include collections of inflammatory leucocytes, particularly plasma cells, whence the process is called plasma cell mastitis. The latter may be one type or phase of comedomastitis. In these conditions the surrounding structures may be involved to produce nipple retraction, skin dimpling or fixation to the skin. One important feature in clinical evaluation may be an onset characterized by an acute episode of pain, tenderness and swelling in a

non-lactating breast. Axillary lymphadenopathy may be present. Unless the tumor is of acute onset and rapidly subsiding, treatment should be surgical excision.

Traumatic fat necrosis is relatively rare in that it occurs in about 1 per cent of breast tumors. Trauma followed by ecchymosis preceding the presence of a tumor provides a helpful diagnostic clue. A history of trauma is lacking, however, in a majority of instances. As a clinical entity it achieves importance as a firm tumor, often with skin attachment, which is usually diagnosed as carcinoma. The pathologic features are those of a foreign body granuloma with fibrous tissue cells in different stages of development, lymphocytes, giant cells, necrotic fat and the characteristic presence of foam cells or lipoid phagocytes. It is more apt to develop in obese women or large pendulous breasts. The tumor is sometimes not detected for several months after trauma to the area. It may increase progressively in size over a period of months adding further to its mimicry of a malignant process. Any such persistent tumor must be excised to delineate it from carcinoma.

Of the benign tumors, which are true neoplasms, the Fibroepithelial tumors are the most common. These include the fibroadenomas and the duct papillomas.

Fibroadenomas are the commonest breast tumors in young women. They may also be found in the premenopausal and postmenopausal age groups. The presence of a palpable lump discovered while bathing or in self-examination is the most frequent symptom. Pain and tenderness may occur but are less common than in cystic disease of the breast. Physical findings are typically those of a discrete, firm, rounded or lobulated, movable, non-tender tumor. Skin attachment, nipple retraction and axillary lymphadenopathy are not characteristics of this tumor.

Gross pathologic findings reveal a firm or hard elastic mass with slippery or rubbery feel. When cut, the tissue bulges and the cut surface presents an irregular gray-white laminated appearance. Microscopic classification into intracanicular and pericanicular types, depending on the relative location of the fibrous proliferation to the elastica layer of the ducts and acini, has little clinical application. An unusual type is the fetal adenoma in which the epithelial tissue is hyperplastic and is in great abundance com-

pared to the fibrous tissue. Another unusual fibroadenoma variant is cystosarcoma phyllodes or giant intracanicular myxoma. This is a benign fibroadenoma which achieves a characteristically large size.

The treatment of fibroadenomas is surgical removal. Histologic verification is often necessary to delineate the tumor from carcinoma even though a strong clinical suspicion of its benign nature may be entertained. In young women under 25 years of age, though the clinical diagnosis may show a high degree of accuracy and the statistical incidence of carcinoma be quite low, it is advisable to excise the lesion because of the worry and anxiety which accompany a breast tumor.

Intraductal papilloma is a lesion which has met much controversial opinion among clinicians and pathologists. The presenting symptom is usually a sanguinous or serous discharge from the nipple. A palpable tumor is detectable on careful examination in less than half of the patients. Occasionally a tumor appears repeatedly, but disappears after discharge of serum or blood from the nipple. The discharge can usually be elicited by gentle massage from the same

area of the breast consistently and the discharge appears at the same lacteal duct orifice on the nipple each time. Since the only normal secretion of the mammary gland is milk, any other secretion is indicative of a pathologic process. Most commonly the papilloma is located near the base of the nipple, although it may be found more peripherally. They often are multiple.

Treatment varies with the clinical findings and with one's school of thought in management of nipple discharge and papilloma problems. In the presence of a palpable tumor, the palpable mass should be excised along with the lacteal duct and histologic evaluation made to verify the absence of a malignant neoplasm. When no palpable tumor is present, two approaches are commonly practiced. One consists of excision of the involved lacteal duct system or the involved segment of mammary gland containing the papillomata. The other consists of simple mastectomy because papillomas are so frequently multiple.

Other neoplasms occurring in the breast or subcutaneous tissue, although rare in frequency, include lipoma, xanthoma, neuroma, neurofibroma, dermoid cyst, dermatofibroma, myofibroma and chondroma.

---

The supply of funds for medical research may have increased rapidly, but the supply of well-trained manpower presents a critical problem, according to the current issue of *Patterns of Disease*.

At present, about 20,000 professional research workers are engaged in medical research, and it is estimated that an additional 25,000 will be needed by 1970 if the projected expansion of medical research is to be achieved. Present training facilities, however, will provide only 19,000.

One hopeful trend is the steadily increasing number of medical school graduates who are entering research, or teaching, or both. It is estimated that about 8% of medical school graduates currently enter these fields, compared to only 2.3% a generation ago. In addition, the National Science Foundation is playing a significant role in helping to increase the supply of qualified workers. During 1958-59, the Foundation awarded 250 predoctoral, 59 postdoctoral and 32 senior postdoctoral grants for advanced training.

wherever there is inflammation, swelling, pain

# VARIDASE<sup>®</sup>

Streptokinase-Streptodornase Lederle

## BUCCAL Tablets

conditions  
for a fast  
& comfortable  
comeback

Host reaction to injury or local infection has a catabolic and an anabolic phase. The body responds with inflammation, swelling and pain. In time, the process is reversed. VARIDASE speeds up this normal process of recovery.

By activating fibrinolytic factors VARIDASE shortens the *undesirable phase*, limits necrotic changes due to inflammatory infiltration, and initiates the constructive phase to speed total remission. Medication and body defenses can readily penetrate to the affected site; local tissue is prepared for faster regrowth of cells. In infection, the fibrin wall is breached while the infection-limiting effect is retained. In acute cases, response is often dramatic. In chronic cases, VARIDASE Buccal Tablets can stimulate a successful response to primary therapy previously considered inadequate or failing.

*for routine use in injury and infection  
...new simple buccal route*

VARIDASE Buccal Tablets should be retained in the buccal pouch until dissolved. For maximum absorption, patient should delay swallowing saliva.

Dosage: One tablet four times daily usually for five days.

When infection is present, VARIDASE Buccal Tablets should be given in conjunction with ACHROMYCIN<sup>®</sup> V Tetracycline with Citric Acid.

Each VARIDASE Buccal Tablet contains: 10,000 Units Streptokinase and 2,500 Units Streptodornase.  
Supplied: boxes of 24 and 100 tablets.

1. Innerfield, I.: Clinical report cited with permission
2. Clinical report cited with permission



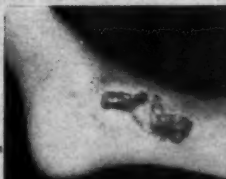
LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY  
Pearl River, New York



**FORCE INJURY**  
severe bruises  
... swelling  
... cleared  
by fifth day<sup>1</sup>



**VARICOSE  
ULCER**  
15 years duration  
... resolved with  
VARIDASE<sup>1</sup>



**INFLAMMATORY  
DERMATOSIS**  
rapidly spreading  
rhus dermatitis  
healed within  
a week<sup>1</sup>



**INFECTED  
ACERATION**  
marked reversal  
in 3 days...  
returned  
to school...  
closure advanced<sup>1</sup>



**THROMBOPHLEBITIS**  
back on his feet  
in a week after  
recurrent episode<sup>1</sup>



**REFRACTORY  
CELLULITIS**  
normal routine  
resumed after 4 days  
of VARIDASE<sup>1</sup>





## Surgical Skin Planning For Facial Scars\*

**J. Walter Wilson, M.D.**

Clinical Professor of Medicine  
Section of Dermatology  
University of Southern California  
School of Medicine

*This article on surgical skin planing for facial scars adequately covers the important points and surgical care of skin defects. The article is exceptionally clear and, even though the procedure is painted as one of great simplicity, the author still presented some of the difficulties involved. I can heartily recommend the innovation relative to the use of Frigiderm rather than the customary Ethyl Chloride and likewise feel that the discontinuance of the wire brush and substitution with a revolving drum of abrasive is far superior. One might question the two-millimeter depth of abrasion advocated by Dr. Wilson. This should not be construed as the usual or average depth, since this may vary tremendously with the area involved and the individual thickness of skin in a particular area involved. Furthermore, I can only add that the choice of patients and the elimination of questionable cases is of vital concern to anyone using this surgical procedure.*

**B**EFORE the film begins I want to talk to you a few minutes about surgical skin planing. My own attitude toward surgical skin planing is guided by this statement: "I do five times as much explaining to my patients as I do planing." I think that surgical skin planing is wonderful if done properly and if applied to the properly selected patient. However, it cannot be used to eliminate every facial defect which patients bring to us. It cannot make a 50-year-old woman look 22. It cannot do away with all of the blemishes that she wants us to remove. In fact, we only plane about one-seventh of the patients that appear and ask for this procedure. However, for the patient with deep pits, for the patient with scars from acne or chicken pox or occasionally from smallpox, it is a

distinct boon. It is the only procedure we have ever found which renders service and permits the doctor to avoid saying, "I'm sorry, but scientifically and with any degree of safety, we have nothing whatsoever to offer you."

Surgical skin planing is not really new. The ancients wrote in the papyrus of Ebers that they used such things as pumice powder and powdered stones to try to grind away skin blemishes. Kromeyer as early as 1905 started investigating abrasion techniques of various kinds and worked at it some 25 years, writing several good papers. However, there were difficulties in those days, principally through bacterial infections; and having no good antibiotics or sulfonamides to fight them, they became justifiedly afraid to open up great areas of skin to the possibility of infection. Thus, Kromeyer's

\*Presented for oral delivery before the Arizona Chapter, American Academy of General Practice, Scottsdale, October 17, 1959.

methods never became extensively adopted, although he had the basic principles as we use them today.

In 1937 Iverson began to ameliorate certain scars by abrasive techniques, and finally Mc-Evitt began the use of sandpaper. They rolled No. 00 common carpenter's sandpaper over a piece of gauze, making a little cylinder, and just rubbed the skin. It was Abner Kurtin in New York in 1952, a very astute man and one who had a great deal of nerve, who really started our modern treatment known as skin planing, surgical skin planing, or dermo-abrasion. He developed the use of a dental machine which bore at its tip a wire brush about  $\frac{3}{4}$ " in diameter and  $\frac{1}{8}$ " wide made out of stainless steel which was revolved at more than 12,000 RPM. This served as an abrasive machine to scrape away the top layers of the skin. He also used for this purpose ethyl chloride sprayed on the skin to refrigerate it. Refrigeration of the skin accomplishes two things: it makes the abrasion less painful, as you well know, and it renders the skin rigid enough to be able to be abraded smoothly. After all, it's a little hard to sandpaper something like a piece of sponge rubber smoothly. He presented all of these findings about 1952. They were not enthusiastically received. It took a lot of energy on his part to sell many other people on the trials.

We began at the University of Southern California the same year after hearing Dr. Kurtin's expositions, saying, "Perhaps there is something to this. It's a little too rough. We don't know whether we like it. Let's see if we can work with it and develop any improvements." Our own first contribution came in the form of a substitute for the ethyl chloride. Ethyl chloride has the disadvantage of being explosive, inflammable, and able to induce anesthesia in rather small amounts (as you all know, because it's used for a rapid induction under certain inhalational anesthesia techniques), but not in an entirely safe manner because occasionally there have been deaths from ventricular fibrillation. It has another major disadvantage for anyone using a skin planing technique because it has toxic effects upon the liver if inhaled in large quantities such as the doctors who perform this operation very frequently might acquire.

We introduced the use of dichlorotetrafluoroethane, which is one of the Freon series and has

been commercially available since 1932 as a refrigerant for moderate cooling, for example, in water coolers for drinking fountains where it is not necessary to freeze but only cool. For you it is in a much more familiar place since it furnishes the energy, the motive power for spray cans for insecticides and a large number of materials including shaving cream and toothpaste. The only new feature we introduced was its use as a substitute for ethyl chloride in the freezing part of the dermal abrasion process. It has these advantages: it is not inflammable in any proportions, mixed with air; it is not explosive; it has no anesthetic properties whatsoever; it cannot induce anesthesia. Incidentally, when the doctor was planing around the nose and spraying ethyl chloride, patients used to go into an anesthesia occasionally without the doctor ever being aware of it. This was a dangerous situation. Dichlorotetrafluoroethane produces a degree of coldness that is great enough by its own surface evaporation to eliminate another one of Kurtin's original operative apparatuses, which was a blower (equivalent to that used to dry a woman's hair after she has had a shampoo) which enforced the rapid evaporation of ethyl chloride. Our new substance eliminated this. This is known as Frigiderm®, and you may have seen it on your own tables. It is also advantageous for all sorts of little freezing operations. It's even useful to minimize the pain of a hypodermic injection with a child; for instance, you can spray a little area a little and show the child on the hand that it is only cold and therefore even make the hypodermic hurt less.

Surgical skin planing, then, has gone through some developments. The last of these developments is the substitution of a fraise, which is a small emery wheel-like affair, again  $\frac{3}{4}$ " in diameter and about  $\frac{3}{16}$ " wide, which is covered on its surface with small diamond chips. This obviates several disadvantages that we used to have with the revolving steel brush. The steel brush could suddenly and unexpectedly grab hold of the skin; or what was even more terrible, it could grab a hair, or grab a piece of gauze sponge in the vicinity, and wind it up rapidly in this business, pulling the instrument actually almost out of the hands of the operator and resulting frequently in a gouge into the skin out of all proportions to what we desired, and many times producing a scar. This diamond fraise

eliminates all of these difficulties, and it makes it really a pleasant process for doctors and a safe one.

The process of skin planing is not very painful. It is uncomfortable, but all of us have planed areas which have not been anesthetized for some reason or other such as the edge of some place or places which have thawed out, and we have found that this is not a horrible sensation, and most patients can stand it. However, it is worth while for us to make this procedure as painless as possible, and we do this with a premedical injection of Demerol® or Nisentil®. We advocate planing only on faces — we do not advocate planing chests and backs and legs and all the rest of the places that have been experimentally planed. We let the patient hold against the face ice bags, (really they are these "hot or cold" packs) which can be put in the refrigerator in the freezing compartment and which congeal into a sort of slush. These serve to cool the face for perhaps 20 minutes while the Demerol gets in its effect and while the operative room is being made ready. They are not actually necessary. They are just a nice little adjunct.

The procedure of surgical skin planing depends for its efficiency on these facts: the pilosebaceous apparatus, the hair and sebaceous glands, and the sweat glands penetrate quite deeply into the dermis, as much as 4 mm. on the face, and it is perfectly possible to remove all of the epidermis thoroughly except these remnants. We plane off 2 mm. or even 2½ mm. of skin. All of the epidermis is gone. But the result is not such as would be if all of the skin had been removed because the skin regenerates surprisingly rapidly from the myriads of small islands left of sebaceous gland, hair follicle and sweat gland elements. Because all of these are derived from the primitive ectoderm and all of them have the capacity of reverting to their original role of forming skin, every one of them starts right in to try to help in re-epithelializing these areas. And so from myriads of these little centers the skin regenerates its epidermis and also regenerates a good part of what you removed even below the epidermis. It is as if you were able to take a third degree burn and put on skin grafts of minute character, all of which would take in thousands and thousands and thousands of little islands. The result is similar to that which all of us have experienced when we fell down on a basketball court or

while we were learning to roller skate and skinned a knee. As you all know, it looked terrible five or six days and hurt a little. But about the fifth or sixth day the edge of it started to peel off, and underneath it was a nice new skin, somewhat red and not as brown as the surrounding skin it is true, but still good quality of new skin. And that's exactly what happens with this procedure. We are not able, therefore, to go to all depths that we would like always in treating deep pits on the first application, because we might go deeper than the level of the deepest of the sebaceous and sweat gland elements, in which case we would get a hypertrophic scar. A hypertrophic scar is a scar which is produced by a wound which must heal from the edges over a fairly wide surface because it has no islands of epidermis in the center to help in its regeneration. And, a hypertrophic scar is an elevated scar which does not look appealing and is somewhat tender. I hasten to point out that this is entirely different from what is called a keloid. A keloid is an entirely different entity and depends upon some idiosyncrasy on the part of the skin of the patient for the production of excessive scar tissue for which we have little or no defense. Like an amateur welder trying to stick iron together ends up with a huge mass; it may hold, but it doesn't look good. This is a keloid, and as you well know, a keloid can develop even in a very fine scalpel scar in which the damage to skin was minimal. We have ruled it out as much as possible in prospective patients by looking at every scar the patient can present to us before we ever recommend planing. We ask them to show us all scars from injury; and if these patients have a distinct keloid tendency, we tell them this operation should not be advised. Similarly, hypertrophic scars can be eliminated by using a proper technique, simply by avoiding going too deeply.

Now I have a color film here which I think demonstrates the technique of this disorder, and I will comment through the film as it goes on. (If you will start the film now, and if we may have the lights out . . .)

The areas to be planed are outlined under strong light by being painted with gentian violet 1% solution, being careful to grind this material down into the depths of the pits because it serves afterwards as a guide as to the depth of planing. The eyes can be protected with

petrolatum, boric acid ointment or mineral oil. Sometimes we use plastic eye shields, but sometimes they are uncomfortable. Here is an instrument which we have developed, the hand piece which can spray the anesthetic refrigerant material from two little apertures along the sides. The advantage is that it avoids loss of time while the skin thaws partly, a few seconds loss by laying down the spraying can of anesthetic and picking up the abrading hand piece. The area selected is usually 2 to 2½" square. We outline it with gauze, as you saw, and then we spray it with the refrigerant for approximately 20 to 25 seconds. Cotton gloves are placed over rubber gloves on the assistant's both hands and on the left hand of the operator to hold the skin tightly tensed in all directions if possible, making it a plane surface rather than one with a great deal of hills and valleys or too much of a convex or concave surface. The instrument is held and used with a motion of the handle in right angles to the plane of the revolutions of the brush. This is to prevent grooves being deeper in one spot than the other. This is a most important observation. We do not plane by moving the hand piece in a direction parallel to the plane of revolution of the abrasive instruments. As soon as one area is completed it is covered with gauze to stop and absorb any bleeding which occurs. All of this oozing is capillary except when we treat such disorders as rhinophyma in which we may find large blood vessels which give us a little difficulty. The refrigeration also has an advantage in that during the planing there is an almost bloodless field, so that it is very easy to see the depths of planing. The gentian violet being in the depths of the pits which you wish to get rid of is easily seen; and when you've removed the gentian violet entirely, you have planed to at least the bottom of the pits. We usually go a little beyond that because we don't want those scarred pit bottoms left, but it's still a very good guide. I have never had a patient who complained so much of this process that we had to stop, even dealing with hypertonic, neurotic patients. You notice also a little metal "mud guard," or fender. This prevents the spattering of blood in all directions. Occasionally the mud guard gets filled full of abraded debris, but it can be easily removed and cleaned and put back in place while the nurse is changing the little squares of gauze to outline a new area. An area can be refrozen if desired and replaned.

It is not very easy to plane skin that has thawed. It again becomes kind of rubbery. It is advantageous around the margins of these areas being planed to taper them out so that the junction is not quite so visible. While I said that the majority of the skin is replaced subsequently, and even the majority of the corium elements which you have removed is replaced, this takes a number of weeks or months to do, and even then it is not always 100% complete. The rapidity of spray is subject to considerable control by the pressure of the thumb on the releasing springs. That is, we can actually spray a tiny area by letting out only a very fine spray or a large area by pressing down hard enough to open both the sprays to their full capacity. We explain to the patients that for the next twelve days after this procedure they should arrange to be "out of circulation," both from a social standpoint and from a business standpoint. We tell them frankly, "You will look exactly as though you had sustained an explosion from an oven in your face. You will scare your friends and yourself if you look in the mirror. But it's all going to come out all right." They can shave gently as soon as all of the crusts have separated.

Now this "non-adherent" dressing (maybe it should be called a "diminished adherent" because it does stick a little bit), which I think you are familiar with by now, known as Telfa®, which has a little layer of cellophane on one side punctured by myriads of tiny holes, tends to stick less onto these crusts more than any other form of dressing. We put them on in this fashion, holding them on with Scotch tape principally to get the patient home. We tell the patient to remove these dressings in twelve to twenty-four hours, or at least by the next morning after the operation. Subsequently, surprisingly enough, we have been absolutely convinced that any form of dressing or any form of application of medicament should be strongly interdicted. It took a long time to learn that dressings are a disadvantage rather than an advantage. The dry crusts which nature produces over such areas within twenty-four to thirty-six hours are a much better protection than any artificial thing the doctor can recommend. About the fourth or fifth day the lighter planed areas will begin to indicate that the crusts are about ready to come away, and then those which are obviously floating can be removed by the patient. More ad-



herent ones should be left on until the ease of separation becomes obvious and should not be forcefully removed. On the fourth day we often use an ointment with an antibiotic in it. Although we don't think this is necessary from an infection standpoint, it softens those crusts which are too dry, hard and thick and which tend to crack and make fissures which are uncomfortable to the patient.

The sequelae of this procedure are rather few. There is always erythema. It would be astounding if the skin could go through this procedure and not show erythema. This lasts from four to six weeks, diminishing in quantity. In an occasional florid complexed patient it may last longer. We have no defense against this except that it always goes back to normal.

Differences and variations in pigmentation are always important because patients end up looking somewhat like pinto ponies if they have very much pigmentation. The areas planed obviously do not have pigment for a considerable length of time until enough new skin has been generated and has keratinized to produce a depth of pigment, and then it often doesn't match the surrounding areas for as much as six to eight weeks. These areas are always easily sunburned, and we have to warn the patients about exposure to sun for several weeks. Deeply pigmented persons are somewhat doubtful candidates for planing because there may be in certain instances rather permanent disturbances in irregularities in planing. Our Negro dermatologist whom we are fond of in California, Dr. John Carney, has, however, cautiously planed a number of Negro patients without any trouble at all. Eventually the areas all came back to normal pigmentation. It has to be somewhat cautiously approached, however, because all of you know Negroes are particularly prone to keloid formation.

Now I think that I have covered all I can think of, but I will answer some questions if you wish.

Question: How soon do you do a second planing?

Dr. Wilson: We never do a second in less than a month, preferably four to five to six months, and in many instances a year. It is surprising how much nature continues to smooth out these areas in the succeeding months after this procedure. Many times a patient at the

expiration of one month looks as though a second planing may be necessary; but if we can coax that patient to wait six months, both the patient and the doctor may agree that we don't need to do it a second time.

Question: Did you say you make this a one-stage procedure?

Dr. Wilson: We do this in the office on the entire face if necessary in one procedure. It goes swiftly. It is not a big hazard to the patient. It has not been a big problem.

Question: Who makes the instrument?

Dr. Wilson: The hand piece is made in Los Angeles. We developed this.

Question: For senile skin, such as for senile keratoses, how does planing work?

Dr. Wilson: It is serviceable and actually results in a "younger" skin. We plane less deeply than we do for acne pits because the senile person's skin is thin; and while the sebaceous elements are usually still present, they have a lot of actinic dermatitis, and so one has to be cautious. The senile epidermis is being produced by cells which have had the influence of too much sunlight over a lifetime in a person whose skin was poorly adapted to sunlight by inheritance. This actually, and I say this confidently, is somewhat of a rejuvenating procedure because the cells in the hair follicles, the ancestral cells which form hairs in that individual and which form sebaceous glands and sweat glands, have not been subjected to as much sun effect because they are from one to three mm. deep, and sunlight does not penetrate that deeply through skin, so that these cells then have not had 50 years of such extreme damage. After planing the skin is covered with epidermis, the cells of which are derived from an ancestry of cells that did not have that 50 years of actinic damage nearly so much at least, and it is actually a true, rejuvenating procedure for persons with senile keratoses.

Question: What about the patient who has had previous x-ray therapy?

Dr. Wilson: Anything which indicates that there are no sebaceous glands, hair follicles or sweat glands left is a contraindication for this procedure, because the only reason this works nicely is because of the myriads of little tiny islands of skin implantation resulting from such remnant.



# The Polycystic Ovary Syndrome\*

Robert B. Greenblatt, M.D.\*\*

Augusta, Georgia

and

Octavio Moreno Martinez, M.D.\*\*\*

Mexico City, D.F.

*A history of the polycystic ovary is given including its treatment. The modern concept of etiology, the gross and microscopic appearance of polycystic ovaries, and the clinical syndrome accompanying this lesion are presented. The treatment recommended is corticosteroid therapy. Surgical wedge resection of the ovaries is carried out when adequate response to corticoids is lacking. An explanation of the mode of action of corticoids and of wedge resection is discussed.*

R.R.L.

## HISTORICAL

ABOUT 200 years A.D., Galen thought of the ovary as a "female testis." He may have based his limited observations on a case similar to ones described by Chéreau in 1844 as sclerocystic disease of the ovaries. Chéreau(1) was struck by the thick, pearly white sclerotic capsule. Many such ovaries were extirpated because of the belief that they were diseased or damaged by the sclerotic tunica. In 1895, Waldo(2) suggested wedge resection of the ovaries instead of removal. Forgue and Massabauu,(3) in 1910, reviewed the literature and described the condition as microcystic degeneration of the ovaries because of the many pea-sized follicular cysts occupying the cortex of the ovary. Rokitansky (1835) has been credited with an earlier reference to small cystic degeneration of the ovaries, but this was not comparable to the cases under discussion since his patient suffered from a

hydatidiform mole. Stein and Leventhal(4) in 1935, described a syndrome of amenorrhea, obesity, infertility, and hirsutism associated with polycystic disease of the ovaries, and this syndrome now bears their names. Stein biopsied the ovaries for histologic study and found, incidentally, that many of these patients menstruated regularly following this procedure. This observation led him to advocate wedge resection of the ovaries as the treatment of choice for this syndrome. The syndrome is also known as the "large pale ovary syndrome." The more sophisticated gynecologist likes to refer to it as the "polycystic ovary syndrome," while the clinicians of France who have shown an interest in this type of ovary for over a century prefer the term "La Maladie Microkystic des Ovaries."

In 1804, the first ovariectomy was performed in this country by Ephraim MacDowell, and an era of gynecologic surgery was begun. Ovariectomy soon caught on with a fervor theretofore unknown. In 1872, Robert Battey of Augusta, and later Rome, Georgia recommended ovarian extirpation for severe dysmenorrhea, for sufferers of pelvic engorgement and nervous exalta-

\*Presented at the 7th Annual Meeting, Arizona Chapter, American Academy of General Practice, October 16, 1959, Scottsdale, Arizona.

\*\*From the Department of Endocrinology, Medical College of Georgia, Augusta, Georgia.

\*\*\*Visiting Research Fellow in Endocrinology from the University of Mexico, Mexico City.

tion, excessive menorrhagia, hystero-neurosis, and for those who had a tendency to epilepsy at the time of menstruation. The procedure became known, and appropriately so, as the Battey operation. For a time the removal of both ovaries became quite a popular procedure, particularly in cases of cystic degeneration or sclerocystic disease. Could it be that the more critical surgeon was reluctant to perform so radical a procedure, and the operation was later reduced to removal of only a part of each ovary? It may be that with this thought in mind, Waldo (1895) recommended wedge resection. In this country, Findley(5) reviewed the problem in 1904, and though he admitted to performing bilateral ovariectomy in many cases, he did wedge resection in others for the treatment of cystic degeneration of the ovaries. It is possible that the procedure of wedge resection subsequently became lost in the literature or forgotten, and perhaps was completely unknown to Stein and Leventhal.

#### WHAT DO POLYCYSTIC OVARIES LOOK LIKE?

The polycystic ovary is twice normal size (Fig. 1). Instead of being round to oval in shape, it is markedly elongated, with a pearly white capsule. Indeed, the ovaries have the appearance of testicles. Testicles are elongated; "normal" ovaries are rounded. It is understandable that Galen, who for 1500 years controlled medical thought in Europe, described the ovary as the female testis. "Female testicle" is indeed an appropriate term for in some ways such ovaries act like testicles in that the bearers of them frequently become quite hirsute.

#### WHAT IS THE PROFILE OF THE WOMAN WITH THIS SYNDROME?

More frequently the woman with the polycystic ovary syndrome is slightly on the obese side. She is quite feminine in appearance and as a rule has good breast development. Such women cannot be said to be virilized, but only slightly masculinized. They may have considerable hair on the face, abdomen, and breasts, but their voices are feminine, bodily contour is feminine, and breasts are well developed. One psychic characteristic that many of them who are married have in common is a great yearning for pregnancy. They want to prove their femininity. Figure 2 is a representative case.



Fig. 1: Note elongated, large pale ovaries, typical of Stein-Leventhal syndrome, seen at laparotomy.

This patient had been married ten years, menstruated only once or twice a year, had good breast development, and complained of infertility. The diagnosis of large pale ovaries was confirmed by roentgen studies following transuterine insufflation of carbon dioxide. In the non-obese woman, the enlarged ovaries are readily palpable. This syndrome should be considered whenever hirsutism, menstrual disorders, ovulatory failure, and infertility are seen in combination in the individual patient.

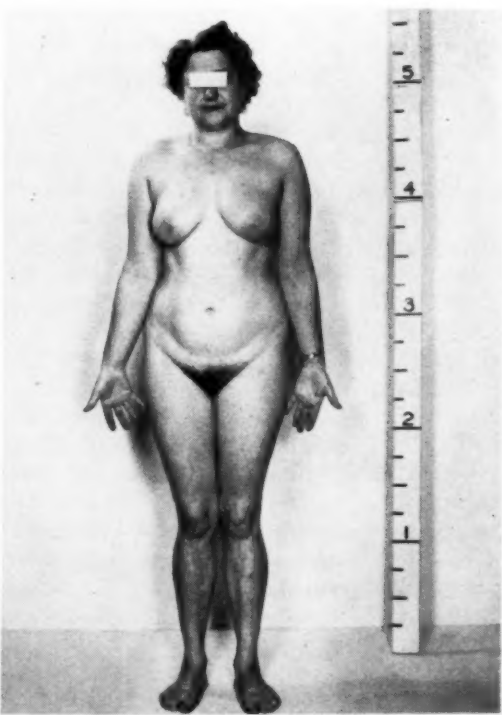


Fig. 2: Average type patient with Stein-Leventhal syndrome. Note feminine appearance with well developed breasts. This patient had functional amenorrhea. The hirsutism of her chin is not too clearly visible in this photograph.



Fig. 3: Pneumoperitoneum performed by transuterine insufflation of carbon dioxide in patient shown in Fig. 2. Note enlarged ovaries seen in x-ray film.

#### WHAT DO THESE OVARIES LOOK LIKE ON HISTOLOGIC EXAMINATION?

The tunica is thickened, and the cortex fibrotic. There are dozens of small atretic follicles occupying the cortex. (Fig. 4) The follicles may be lined by a few layers of granulosa cells, and the theca externa is usually hyperplastic. The medulla and the hilus have a dense fibrous stroma. The capsule becomes thick because these follicles do not progress to maturation and rupture, and thus do not attenuate the cortex. Sometimes the stroma in the medulla or in the hilus of the ovary is tremendously hyper-

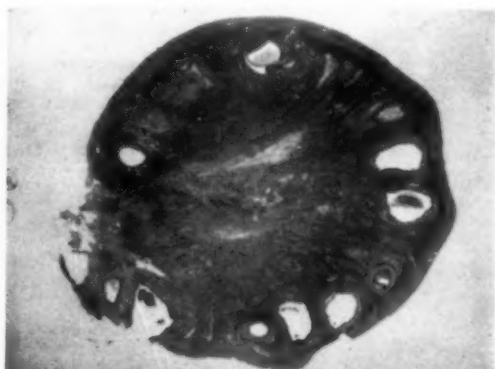


Fig. 4: Photomicrograph of cross section of polycystic ovary in patient with Stein-Leventhal syndrome. Note thickness of the tunica, numerous microfollicular cysts occupying the cortex, and dense stroma of the medulla.

trophied. The cells are large and fusiform, as if there is tremendous activity in this otherwise dormant mesenchyma.

#### WHAT IS THE MODERN METHOD OF THERAPY?

Either of two methods may be used in performing wedge resection, i.e., the longitudinal resection, as recommended by Stein, or a cross-

section type of wedge with coning out of the hilus as recommended by Allen. The hilus represents the remnants and counterpart of the embryonic testis. Figure 5 gives one a good idea of the cross wedge and coned out pieces of tissue from the hilus as performed by the author.

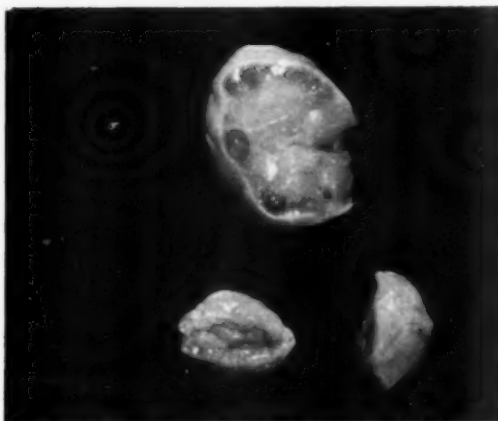


Fig. 5: Note narrow wedge removed from ovary with numerous microcysts under the cortex and two sections of hilus cored out from the ovary.

#### WHAT EVIDENCE IS THERE FOR THE VIEW THAT THESE OVARIES ARE RESPONSIBLE FOR THE PSEUDOMASCULINIZATION OF THESE PATIENTS?

Evidence is accumulating to show that the ovary is capable of producing small amounts of potent androgenic substances. Figure 6a is that of a young woman with the typical syndrome. Notice the hairiness of the chest and of the extremities. There is moderate facial hypertrichosis. The patient complained of menorrhagia of several weeks duration. She was seen in consultation, not because of the hirsutism, but because of the menorrhagia. In our study of this patient, urine was obtained for hormone assays and a suction curettage was performed to study the endometrium. The bleeding was arrested within 24 hours with progesterone. Cortisone therapy was started in the belief that we were dealing with a typical Stein-Leventhal syndrome. However, the endometrial biopsy revealed an adenoacanthoma which necessitated radical intervention, and a panhysterectomy was done. At laparotomy, typical sclerocystic ovaries were found. Though her urinary 17-ketosteroids fell somewhat on cortisone therapy, the values were reduced to normal levels only after both ovaries were removed. (Chart 1) In this particular case, the ovaries evidently were responsible for



Fig. 6A: Note hypertrichosis in patient prior to surgery.

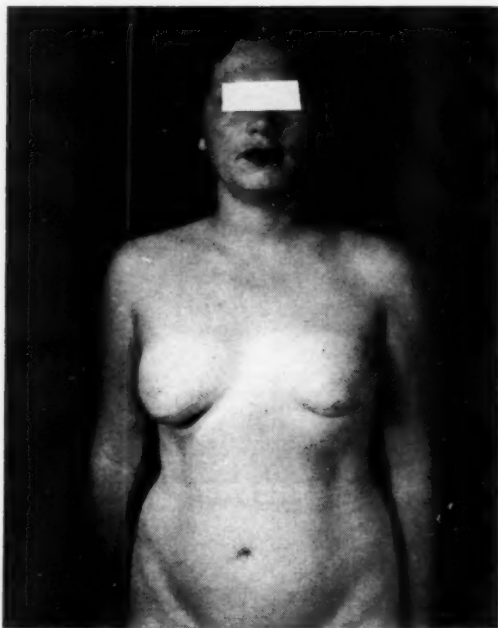


Fig. 6B: Note disappearance of marked hirsutism following panhysterectomy performed for adenocanthoma of the uterus; typical polycystic ovaries were also found.

a good ratio of her 17-ketosteroids because their removal was followed not only by the reduction in 17-ketosteroids, but also by lessening of her hypertrichosis. (Fig. 6b)

#### WHICH PATIENTS RECEIVE CORTICOIDS? WHICH ARE SUBJECTED TO WEDGE RESECTION?

It is our practice to place patients in whom a diagnosis of polycystic ovaries or Stein-Leventhal syndrome is made on a trial course of corticoids. Figure 7 is that of a hirsute young woman with functional amenorrhea and palpably enlarged ovaries. She was given cortisone and

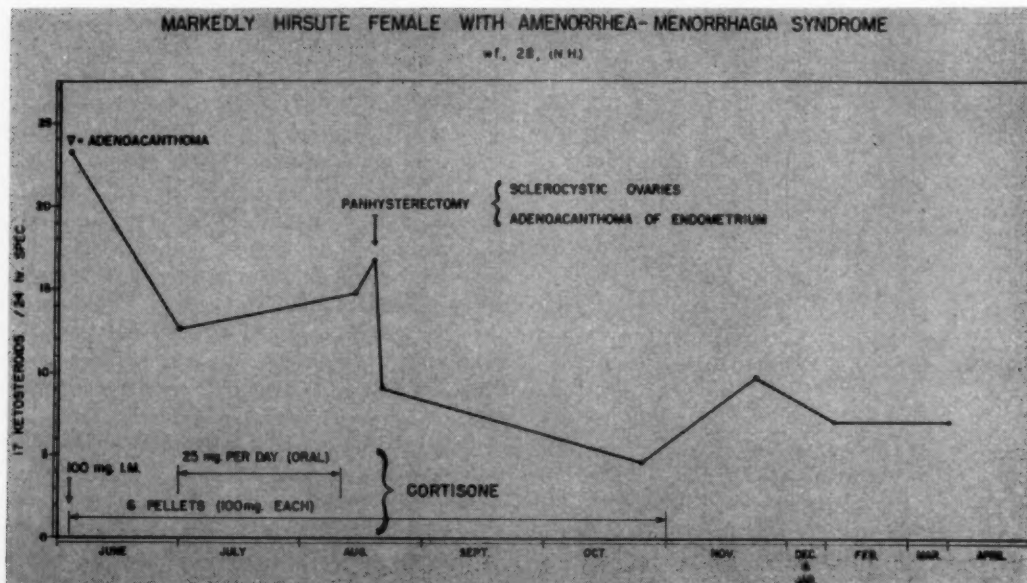


Chart 1: This chart shows the hormonal studies performed on the patient shown in Figure 6, A and B. Note that the high 17-ketosteroids were reduced by cortisone treatment. Following pan-hysterectomy there was a further reduction in urinary 17-ketosteroid excretion and the patient lost most of the hirsutism.



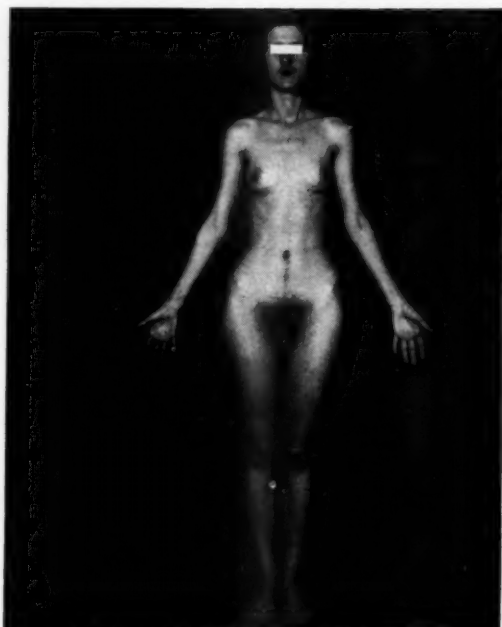


Fig. 7: Patients with Stein-Leventhal syndrome may be of normal or even of thin body build, although they are more frequently somewhat obese. In the patient shown here, the enlarged ovaries were readily palpable.

several ovulatory periods occurred during the twelve month's trial of therapy. It was felt that she was not ovulating often enough and a wedge resection was performed. After this procedure, she began to menstruate and ovulate each month, and conceived within a year. (Chart 2) If some patients do not show adequate responsiveness

to cortisone therapy, then wedge resection is advocated.

It is our opinion that the cortisone-responsive cases have a slightly different syndrome than the so-called Stein-Leventhal syndrome. Such cases have been referred to as adrenal dysfunction. They are variants of a pituitary-adrenal-ovarian imbalance, where either the ovary, the adrenal, or both may be involved. If adequate response to cortisone is obtained, surgery may thus be avoided. If surgery is performed and failure is encountered, then a further trial of cortisone is indicated.

#### WHY DOES CORTISONE WORK?

The final answer is still conjectural. ACTH is the most important hormone produced by the anterior pituitary gland. At times the pituitary is preoccupied with its production because of various physical and/or emotional stresses to which the individual is subjected. The end result, in certain cases, is increased 17-ketosteroid production by the adrenals, resulting in hirsutism in those women who are sensitive to increased endogenous androgens. By inhibiting some of the ACTH production with corticoid therapy, the pituitary may turn its attention to some of the lesser trophic hormones, such as gonadotropins, and qualitatively better gonadotropins may be released, thus stimulating the ovary to ovulation. (6) In this manner the adrenal type of disorder responds to cortisone therapy, resulting in better pituitary-ovarian balance. On the

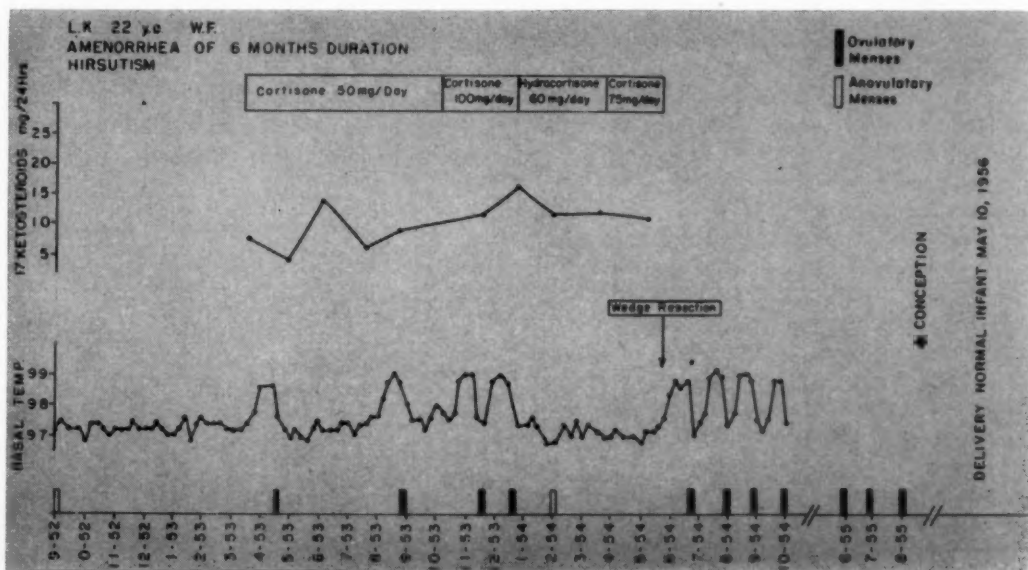


Chart 2: A trial of glucocorticoid therapy in the patient shown in Figure 7 resulted in a few irregular ovulatory periods. Following wedge resection of the ovaries, regular ovulatory menses set in and conception occurred within the year.

other hand, it may be conjectured that corticoids lessen the sensitivity of the hyperresponsive ovaries to gonadotropins permitting a more orderly design of function.

#### WHY DOES WEDGE RESECTION WORK?

Urinary gonadotropin assays in patients with the Stein-Leventhal syndrome are, as a rule, within normal limits. It may be that these patients are very sensitive to their own gonadotrophins. Patients with Cushing's disease do not produce excessive amounts of ACTH, but are sensitive to their own normal excretion of ACTH. The adrenals become hyperplastic. With removal of much of the adrenal tissue, the patient reverts to normalcy. Likewise, the patient with thyrotoxicosis does not produce excessive amounts of thyroid-stimulating hormone (TSH), but the thyroid becomes very sensitive to the amounts present and the thyroid gland becomes hyperplastic. Removal of two-thirds or three-quarters of the thyroid causes the thyrotoxicosis to disappear. It is our belief that the Stein-Leventhal patient is sensitive to her own gonadotrophins, and the ovaries become enlarged. Removal of a considerable part of the ovarian mass permits the return to ovulatory cyclic menses. This concept is borne out by the following case report. A 32-year-old female, complaining of amenorrhea, infertility, and a mild degree of hirsutism, had one ovary removed five years previously. The ovary was said to be filled with many little cysts. After surgery, she menstruated regularly and was able to conceive. A few years later she reverted to her amenorrheic state and hirsutism increased. On pelvic examination, a markedly elongated ovary was palpable. At laparotomy, the ovary was noted to be elongated to about three times normal length. This would appear to have been compensatory hypertrophy of the remaining ovary in a patient sensitive to her own gonadotropins. The ovary was typical of the polycystic ovaries with a thickened capsule. (Fig. 8) Transverse wedge resection was done and the hilus was coned out. The patient began to menstruate with regularity once more. It is our belief that in some of these patients who are highly sensitive to their own gonadotropins, that numerous follicles are stimulated, marked hypertrophy of the theca interna and externa is induced, and the stroma often is activated. A condition of hormone imbalance is created which is manifested frequently by hirsutism and anovulation.

#### CONCLUSION

In the polycystic ovary (Stein-Leventhal) syndrome, the adrenals or the ovaries may be primarily at fault. A four to six month course of corticoids is indicated to see if a good therapeutic response may be obtained. If it is not, wedge resection of the ovaries will result, in many instances, in cyclic ovulatory menses.



Fig. 8: Note markedly elongated ovary — thought to be compensatory enlargement in a patient with the Stein-Leventhal syndrome who had one ovary removed some five years previously.

#### REFERENCES

- Chereau, mentioned by Albert Netter: Dystrophic polykystique des ovaires. *Revision Annuelle Gynecologie*, 1954.
  - Waldo, quoted by Schockaert, J. A.: Considerations au sujet de sept cas de syndrome de Stein-Leventhal-Cohen, *Compte rendu Soc. fr Gyn.* 25:402 (Dec.) 1955.
  - Forgue, E. and Massabuau, G.: Les lesions et al pathogenic de la degenerescence microkystique des ovaires, *La Presse Med.* 18:421, 1910.
  - Stein, I. F. and Leventhal, M. L.: Amenorrhea associated with bilateral polycystic ovaries, *Am. J. Obst. & Gynec.* 29:181, 1935.
  - Findley, Palmer: Cystic degeneration of the ovary, *Am. J. Ob. and Dis. of Women and Children* 49:762, 1904.
  - Greenblatt, R. B.: The adenohypophysis and ovulation, *Fertil. and Steril.* 8:537 (Nov-Dec.) 1957.
- OTHER PERTINENT REFERENCES**
- Robinson, M. R.: The surgical treatment of ovarian dysfunction, *Am. J. Obst. & Gynec.* 30:18, 1935.
- Ingersoll, F. M. and McDermott, W. V.: Bilateral polycystic ovaries, Stein-Leventhal syndrome, *Am. J. Obst. & Gynec.* 60:117, 1950.
- Sommers, S. C. and Wadman, P. J.: Pathogenesis of polycystic ovaries, *Am. J. Obst. & Gynec.* 72:160, 1956.
- Haas, R. L. and Riley, G. M.: Polycystic ovaries and amenorrhea, laboratory and clinical observations, *Obst. & Gynec.* 5:657, 1955.
- Keetel, W. C., Bradbury, J. T., and Stoddard, F. J.: Observations on the polycystic ovary syndrome, *Am. J. Gynec.* 73:954, 1957.
- McArthur, J. W., Ingersoll, F. M., and Worcester, J.: The urinary excretion of ICSH and FSH by women with diseases of the reproductive system, *J. Clin. Endocrinol. & Metab.* 18:1202, 1958.
- Jones, G. E. S., Howard, J. E., and Langford, H.: The use of cortisone in follicular phase disturbances, *Fertil. & Steril.* 4:49, 1953.
- Greenblatt, R. B.: Cortisone in the treatment of the hirsute woman, *Am. J. Obst. & Gynec.* 66:700, 1953.
- Allen, W. M. and Woolf, R. B.: Medullary resection of the ovaries in the Stein-Leventhal syndrome, *Am. J. Obst. & Gynec.* 77:826, 1959.
- Perloff, W. H., Hadd, H. E., Channick, B. J., and Nodine, J. H.: Hirsutism, *Arch. Int. Med.* 100:981, 1957.
- Jailer, J. W. and Van de Wiele, R. L.: Studies in hirsutism. I. Urinary excretion of the neutral 17-ketosteroids, *Gynaecologia (Basel)* 138:276, 1954.
- Buxton, C. L. and Van de Wiele, R.: Wedge resection for polycystic ovaries, *New Engl. J. Med.* 251:293, 1954.
- Greenblatt, R. B., Manautou, J. M., Clark, S. L., and Rosenberg, A. P.: Suppression of adrenal cortical activity in treatment of menstrual disorders, *Metabolism* 7:25, 1958.
- Jackson, R. L. and Dockerty, M. B.: The Stein-Leventhal syndrome. Analysis of 43 cases with special reference to association with endometrial carcinoma, *Am. J. Obst. & Gynec.* 73:161, 1957.
- Greenblatt, R. B.: La maladie microkystique des ovaires, *L'Union Med. Canada* 87:655, 1958.

*An Ethical Professional  
Service for Your Patients  
Founded 1936*



**Money, Like Plants, Grows With Care!**

With proper care, money can grow for you, Doctor. Your money can be put into savings accounts, wise investments . . . stocks, bonds, real estate, or it can grow by helping you grow through the purchase of a new office building and additional equipment. But if your money is tied up in past due accounts, it is like a plant without water . . . it shrivels and shrinks with the passage of time.

You can keep your hard earned money active and put it to work for you by suggesting the Budget Plan for Health. You'll be amazed how easy it is to suggest the Budget Plan and how acceptable the idea is to your patients. Your patients are used to monthly payments because that's how they have their home, their car, clothing and many other items of their daily life. They'll like the Budget Plan's easy monthly payments at bank interest rates. By suggesting the Budget Plan for Health, you'll get your money quickly so it can go to work for you and your patient will have peace of mind in that he has met his financial obligation to you without straining his budget. Money, like plants, grows with care. Suggest the Budget Plan for Health and watch your money grow.

**Medical & Dental Finance Bureau**

First Street at Willetta	•	Phoenix	•	AL 8-7758
31 North Tucson Boulevard	•	Tucson	•	MA 3-9421
456 North Country Club Drive	•	Mesa	•	WO 4-5668

## Arizona Medical Association Reports

# The President's Page

## Arma

Lindsay E. Beaton, M.D.



Lindsay E. Beaton, M.D.

Welcome home from vacation — to consideration of weighty matters.

The twentieth century has been given many appellations — the Age of the Common Man, the Atomic Era, the Dawn of Democracy, the Scientific Renaissance. Some of us who have served in the Armed Forces have been

tempted to think of it as the Epoch of Paper. But to a lexicographer, or perhaps even to an ordinary citizen trying to decode his morning news sheet, it might well be called the Age of Abbreviation.

This condensation of language seems seriously to have begun with the proliferation of federal agencies under the New Deal, and most of us still recall, with mixed emotions, the CCC, the WPA, the NRA, and many more. During World War II, the Services compounded the practice, and ETO, SOPAC, METOUSA, and hundreds of other contractions were added to the common tongue of the soldier and sailor, along with certain pungencies found after demobilization

to be not exactly welcome at the family dinner table. Finally, the increasing complexity of social and political organization, both nationally and internationally, has added literal thousands, until the reader of average information material is expected to recognize by abbreviation an astounding number of institutions, persons, and groups. One presumes that this situation derives from a journalistic attempt at simplification and space-saving, but at the same time the result has been a vulgarization of the language. At its extreme, combined with other linguistic trends, it contributes to incomprehensible new jargons, such as Pentagonese and Psychoanalytic Pidgin.

There are two kinds of abbreviation, as Graham DuShane classifies them in a recent editorial in *Science*. The classic type is formed from the initial letters of the words in a title. A modern second sort, which may descend from chemical notation, is one in which one or more of the first few letters are taken from each of the words of the title and so arranged as to make a new, contrived and pronounceable word. In the first category are most of the earlier examples, dating back to New Deal days or before, such as GOP, FBI, CIO, and so on. The second variety may be originally a military phenomenon. "Blimp" is an example of an early invention, from British "B" class "limps",



as opposed to rigid dirigibles. Naturally this species has bloomed since 1941 and throughout the war years and after and has enriched the martial vocabulary with sonorous terms like USAFISPA (United States Army Forces in the South Pacific Area), the evocative MOMP (Mid Ocean Meeting Point) of the Atlantic Fleet, and the more recent KATUSA's (Koreans augmenting the U. S. Army). There seems to be an increasing tendency toward this second style, and no self-respecting civic agency would publish its masthead till it had invented a name that could be twisted, by the rules here outlined, into a catchy vocable. So marked is the trend that radio stations, whenever possible, alter their call letters to make an ersatz word that can be sounded loudly as a cultural identification.

Medicine has always had its own verbal shorthand, arcane and at least in part designed, like the prescription, to confuse the laity. For example, PA does not mean to the doctor Public Address system but either pernicious anemia or paralysis agitans, depending on his professional preoccupations. MS does not medically stand for Master of Science but for morphine sulfate or multiple sclerosis. SOB indicates short of breath and not Senate Office Building. GI signifies to the physician neither galvanized iron nor government issue but gastro-intestinal. The discomfiture that arises from misunderstanding of these contractions was nicely illustrated in the case of the dignified Colonel, Professor of Military Science and Tactics at the University of Arizona, who became enraged when he walked into a Tucson roentgenological office for a barium enema only to hear the receptionist sing out to a technician in the rear, "Mabel, your GI is here."

Well, all of this makes an innocent parlor game, if you weary of the idiot box some night, and I leave it at that.

Anyone who has busied himself with the affairs of the Arizona Medical Association soon learns that there are many abbreviations in common use for various committees and personages in the Society. AM, for example, always means *Arizona Medicine* and not ante meridian. BME stands for the Board of Medical Examiners and not for Bachelor of Mechanical Engineering. CO is Central Office, not Commanding Officer; PC is Professional Committee, not post

cibum; IC is Industrial Commission, not Illinois Central railroad; SAC is Scientific Assembly Committee, not Strategic Air Command. Coming down to persons, SW conveys not Southwest but our legal firm, Snell and Wilmer, the habitat of our unequalled counsel, Edward Jacobson; RC throughout the Association always signifies not Red Cross or Royal Crown cola, but the incomparable Robert Carpenter, our Executive Secretary; and PB suggests his Assistant, Paul Boykin, and not the metal lead — certainly not in the energetic Mr. Boykin. Then there are our ancillary cohorts. WA stands for the Woman's Auxiliary, not Western Australia. BC denotes Blue Cross, not British Columbia. And BS means Blue Shield.

Perhaps RC and PB of the CO should publish a glossary in AM.

All of this is a long preamble to a short suggestion. The Arizona Medical Association needs an official abbreviation. For want of one the press has been using AMA, which is obviously already preempted, and the application of which is at times embarrassing to us. Some in the CO have had recourse to TAMAI (The Arizona Medical Association, Inc.) This I find vaguely oriental in appearance and objectionable in pronunciation, for it is sounded to remind one of Debbie Reynolds twittering a popular balled only recently and unlamentably absent from the radio waves. DuShane has pointed out that there are short forms better left unvoiced; he cites DOD (Department of Defense) as one. And the American Association for the Advancement of Science would rather, he says, have you call the AAAS "the A-cube-ess" (A<sup>3</sup>S) or the "the triple-a-ess."

Let me then speak for ARMA, not from the Latin, though the allusion is not inappropriate, for our Society would like to be regarded as part of the physician's "arms" in his battle against disease, but as a word constructed from the *ARizona Medical Association*. This has good precedent in its method of formation; it is easily pronounced; it has no offensive connotations; it robs no other organization. Even the gentlemen of the press might be induced to try it.

Perhaps, like other noble experiments, this notion is destined only for oblivion, but the Association does deserve its own distinctive abbreviated title.

**SUMMARY FROM THE SECRETARY  
MEETING OF THE MEDICAL  
ADVISORY COMMITTEE  
SOCIAL SECURITY  
ADMINISTRATION**

**BALTIMORE, MAY 18, 19, 20, 1960**

To: The Board of Directors

As was noted at the last Board of Directors' meeting, I was asked to attend a meeting of the Medical Advisory Committee of the Social Security Administration in Baltimore, Maryland, May 18th, 19th, and 20th, 1960, as a representative of The Arizona Medical Association. I accompanied Doctor Palmer Dysart, Arizona Vocational Rehabilitation Medical Consultant who was also an invited participant. Other states represented in a like manner were California, Minnesota, and Pennsylvania. The following is a narrative summary of the discussions based on notes which I made at the time.

The meetings were held in the new Social Security Building just outside Baltimore where approximately 8,000 persons are employed. The first day was largely one of orientation and briefing of the invited participants on the Social Security Program as related to the administration of the Disability Program. Specific problems discussed were those of the purchase of medical evidence and the procedures of remediability of causes of disabilities. It was stated that as of January 1960 there are 14,000,000 beneficiaries of social security. These included the aged men and women, young widows and children, and those individuals covered by the Disability Program. It was stated that 57,000,000 are fully covered under the Social Security Program and that at the present time 500,000 individuals are receiving disability benefits, while 100,000, while disabled, receive the "premium waiver" or "freeze" of social security benefits, having not yet reached the age of 50 which is now the minimum age for coverage. It was stated that the average benefits of an individual disabled for his life time (covering all ages of onset of disability over 50) were \$67,000. Thirty-five thousand individuals were accepted for rehabilitation services on a state level, these having been screened and analyzed by the state agencies for referral. Of these 900 have been rehabilitated; 7,900 have had their cases closed as not being remediable; 2,200 have been denied; and 24,000 are now receiving or waiting services. It was pointed out that vocational rehabilitation

depends to a great extent on the motivations of the individual to be rehabilitated. It was suggested that this large, unexplored area should be evaluated by psychiatrists.

At this point, the discussion concerned the inadequacy of present forms used to obtain information from doctors. It was noted that these were not the same as the usual insurance forms filled out and that the information usually received was inadequate for the determination of disability. During this and in subsequent sessions, a great deal of time was spent in discussing the definition of disability and the means of its determination. This led to recurring discussions of considerable depth relating to the purchase of medical evidence in establishing disability, and the costs thereof. Concern was expressed that the program projects government agencies more directly into the area of providing diagnostic medical services for claimants under the Social Security Program. This appeared particularly pertinent inasmuch as it was stated several times that Congress was expected to lower the age for qualifications for disability benefits under Social Security from 50 to age 25 this year. Mr. Arthur E. Hess, Assistant Director of the Social Security Program, made the following statement: "It is fair to say that for identical services or examination, the state has to pay the same fee whether due for OASI, DR, or DVO, but if they wish to differentiate they can modify, but not exceed the highest fee paid for any other state or federal fee program. The difficulties arising in states are due to their inability to vary the fees because of state policy or law."

At this time, I was asked about the feeling of the doctors in Arizona regarding insurance schedules used in our state agencies. I stated that the state agencies adhere to the Industrial fee schedule which had been arrived at through the efforts of The Arizona Medical Association, and its sub-committee on Fee and Contractual Medicine, that this schedule was accepted as a special situation for state agencies and did not indicate that The Arizona Medical Association felt that it was either average or adequate in terms of fees ordinarily charged by physicians for private care.

It was stated that the disability allowance rates ranged from 50 to 60% of claimants on a national basis. This varied somewhat in different states depending upon the evaluation of

cases, some being more liberal than others. The disability guides have a certain degree of variability, but are, in general, based on the following factors:

(1) Individual must have 5 years of insurance status under the Social Security System.

(2) He must have a medical disability which is medically determined by history, physical examination, and confirmed by laboratory work.

(3) The duration of illness must be at least 6 months and must be continuous.

(4) The disability must be non-remediable in the sense that remedy must be available, acceptable, and safe.

(5) Individual must not be working.

The full session of the Medical Advisory Committee was opened by Doctor J. Duffy Hancock with a statement that the two chief problems to be discussed concerned the prompt payment of benefits and the establishing of reasonably uniform standards for disability payments. Mr. Hess stated that the current status of processing of claims requires one month, and that the current disability allowance rate is approximately 50% of claims submitted. He further discussed the recommendations of the Harrison Subcommittee of the House, Ways, and Means Committee which has been holding hearings concerning the operation of the Social Security Administration and its Disability Division. He stated that the federal government lacked the authority to overrule a state agency denial of a claim, that the Harrison Subcommittee had made no recommendation concerning this, and that the Medical Association would react unfavorably to any change in the status of authority on this point. He noted that the Appropriations Committee has re-opened a discussion regarding the cost of state operations due to the rising costs resulting from the time lag in the staffing of State Agencies and the rising costs of consultative examinations both a result of increased numbers and increased costs per case. There was pressure from the Harrison Subcommittee to streamline the entire operation to obtain better efficiency. A motion was made that a subcommittee of the Medical Advisory Committee be appointed to study the function of the state agencies in the OASI operation and recommend any changes indicated. It was suggested that the American Medical Association sources be used for collection of information in this regard.

Doctor William Roemmich, Chief Medical Officer of Division of Disability Operations, spoke briefly stating that documentation and the quality of records has improved. There have been increased numbers of consultations; they have been more adequate and have resulted in more allowances being paid. Doctor Palmer Dysart related the procedure used in the State of Arizona in obtaining information and consultative examinations. He stated that it was usual to request a supplementary report or summary of a case from the patient's private physician and that subsequent to this a consultative examination usually by a different physician was obtained to bring the case to a current status. A further consultation examination was utilized if indicated by a conflict of opinion or by the nature of the impairment under consideration.

Doctor Lieberman of California stated that the State of California does not pay physicians for summaries of cases requested by the state agencies. Doctor McGee stated that there was a reluctance of the claimants to pay for any examination himself. It is usual for the claimant to wait until the government will pay for such examination. He further stated that several times, however, it was incumbent upon the claimant to present the medical evidence for the initial consideration of his claim and that he was ordinarily required to meet the cost of this. Doctor Farrell stated that the usual fee for a consultative examination should be paid and it should not represent a welfare fee. Doctor Cox, an orthopedist of California, stated that in California a panel of consultative physicians was used and a fee schedule determined by law was followed and could not be varied except through a legislative approach. He stated that if the federal government operates a disability pension fund, it should independently determine the value of medical information rather than utilize state agencies fee schedules. Doctor Wade stated that most state agencies are tied to the vocational rehabilitation fee schedule inasmuch as one agency administers two programs, and it is extremely difficult to administer two different fee schedules in such a situation.

It was again stated that existing medical evidence must be presented by the claimant to develop his case if it is not paid for by the government. There appeared to be concern

over a reference letter No. 97 which would allow a claim "without medical evidence." It was stated that this would be an extremely rare case and that medical evidence should be available somewhere on any case. The type of case referred to appeared to be that of a double amputee or of blindness.

The trends in litigation were discussed by representatives of the legal department. Cases were cited in which the decision of the disability agency had been reversed by a court. It was stated that the courts usually accepted and upheld medical consultations, but this was not always true. A consultant report carries more weight if, in addition to the usual technical reports, there was a report in layman's language as to the claimant's physical abilities and mental status. It was noted that a report should emphasize what an individual claimant can do, not what he cannot do.

A report of the Office of Hearings and Appeals was received. It was again emphasized that the reports should contain medical language a layman could understand. The legal procedures followed were essentially those in any court. Fees for testimony were discussed and apparently varied from \$50 per hour in the State of Indiana to a fee of \$75 to \$100 for each appearance in the State of New York. The consultative examiners are called only where there is demand for cross-examination. It was stated that some physicians give ultimate disability decisions which are unsupported by evidence (especially private physicians). It was noted that the disability hearings give due weight as to activities on the basis of lay evidence (shopping, driving, walking).

The definition of a consultative report was given as follows:

Ancillary evidence or the information not included in the initial report to complete claims. It was stated that if the initial report was deficient in information, a fee would not be paid. However, if additional information was requested, a fee would be paid. Doctor O'Malley of Minnesota stated that narrative reports were used in that state and were better than many types of forms which they had attempted to devise. He stated that there was a differential between information required for diagnosis and treatment in ordinary medical cases than that required for functional evaluation in disability.

On the final day of discussions evaluation

policies at both the federal and state levels were considered. It was noted that the agency suggestions for guide revisions in the determination of disability from such impairments as epilepsy and intervertebral discs were much too loose. A very vigorous protest to such a loosening up was made by the Medical Advisory Committee and it was further recommended that the guide of remediability be applied to such cases and that disability be based on the residuals of impairment after treatment. The question of disability due to psychological factors rather than organic disease was also discussed and noted to be a very difficult area for determination. It was strongly reiterated that non-medical factors do not belong in medical guides; these factors being employability and social factors. In reference to epilepsy, it was stated that work is therapy for epileptics and that many of them make good employees and they should not be encouraged to file disability claims. Further discussion regarding the philosophy involved in the extension of disability claims to disease states which ordinarily do not interfere with employment such as obesity, ensued. The discussion of obesity as to remediability and the specifying of a percentage of weight increase for determination of disability, plus the many psychogenic factors involved in obesity were considered. It appeared that it was the feeling of the Committee that this probably did not belong in the category of impairment under most situations.

This summary represents notes made during discussions and intended to represent as nearly as possible a record of the general context of discussions. I would like to add that Arizona's Vocational Rehabilitation Consultant, Doctor Palmer Dysart, exhibited a remarkable fund of information of all subjects covered, and was frequently requested to indicate procedures which were utilized under his direction in the Arizona agencies of rehabilitation and disability program. His remarks were carefully noted and his suggestions well received by the entire Committee and were, in my estimate, consistently in the interests of the practicing physician and the efficient administration of the program at a state level.

Respectfully submitted,

Lorel A. Stapley, M.D.

June 8, 1960



## COMMENDATION

Roland F. Schoen, M.D.

The Board of Directors of The Arizona Medical Association, Inc., in meeting held June 5, 1960, on motion of the President, Doctor Lindsay E. Beaton, unanimously adopted the following resolution:

"That the Board of Directors especially commend Roland F. Schoen, M.D., vice-chairman of the 1959 Scientific Assembly Committee, for his enthusiastic and imaginative direction of publicity for the 69th Annual Meeting and for his alert and attentive management of the procedural details of the convention; and that it extend the grateful thanks of the Association for these labors, which so substantially contributed to the success of the meeting."

## THE ARIZONA MEDICAL ASSOCIATION INC. BOARD OF DIRECTORS

Meeting of the Board of Directors of The Arizona Medical Association, Inc., held Sunday, June 5, 1960.

### BOARD OF DIRECTORS CHALLENGE

#### *House of Delegates Election — Central District Director*

The following self-explanatory letter dated May 11, 1960, over the signature of David C. James, M.D., Delegate, Maricopa County Medical Society, was presented for review:

"Gentlemen:

"I wish to go on record as protesting the election of the Central District Directors at the meeting of the Arizona Medical Association, Inc., conducted on May 6, 1960, during its annual convention, for the following reasons:

"For your information the official count as reported to me by Mr. Robt. Carpenter was as follows: Dr. Tuveson, 41 votes; Dr. Barker, Jr., 14 votes; Dr. Reed, 34 votes; Dr. Flynn, 24 (22) votes; Dr. Stern, 27 votes. The total votes cast was 138. The total number of authorized Delegates and Officials to the convention present and voting therefore would be 69, inasmuch as two Directors were to be elected.

"It becomes clear from these figures that Dr. Tuveson has a clear majority of 41 votes of the 69 ballots cast by the voting members. There is no question about his proper and legal election.

"However, none of the other nominees have a majority. Chapter 5, Section 1, of the By-Laws

of the Arizona Medical Association, Inc., as revised to 1959, states 'If no one of three or more candidates for a particular office shall receive a majority of the votes cast, the two with the highest number of votes shall be the candidates in a run-off election'. Inasmuch as Dr. Tuveson had a clear majority, it would become obvious from this section of the By-Laws that there should have been a run-off election between Drs. Reed and Stern, these two having the highest number of votes among the remaining nominees. I feel that this was either an oversight by the Speaker of the House, or a misinterpretation of the By-Laws as published.

"How may this be resolved? Two possibilities occur to me.

"Chapter 5, Section 1, of the By-Laws states 'All elections for offices shall be conducted as a part of the business of the regular annual meeting of the House, etc.' Since the meeting of the House was adjourned sine die it could then devolve upon the Board of Directors to resolve this question. This opinion would be substantiated by Chapter 6, Section 3, of the By-Laws which states, 'The Board shall be vested with the control and management of the affairs of the Association subject only to directives from the House, and shall have the full power and authority of the House between meetings of the House.' This would be one alternative.

"A second, and more democratic, alternative (since the Delegates were disenfranchised by the interpretation of the returns by the Speaker of the House) would be to acquaint the authorized Delegates and voting members of the House with the situation and to poll them by mail ballot.

"The objection could be raised to the second alternative that there is no provision for the election of officers by mail ballot.

"However, this could be overcome by the Board of Directors suspending the rules, on this particular issue only, to accomplish a decision on this matter.

Respectfully submitted,

(S) David C. James, M.D.  
Delegate, Maricopa County"

It was moved by Doctor O'Neil, seconded by Doctor Jarrett and unanimously carried that the office of Central District Director (held by Wallace A. Reed, M.D. from May 6, 1960 to

date) be declared vacant, due to an irregularity in election.

It was moved by Doctor O'Neil, seconded by Doctor Beaton and unanimously carried that Wallace A. Reed, M.D. be elected by this Board of Directors to complete his term (as Central District Director) until the next meeting of the House of Delegates.

Wallace A. Reed, M.D. entered the meeting at this point.

Doctor Smith introduced Doctor Reed of Phoenix, Central District Director, a new member of the Board, for the term 1960-61.

#### BOARD ORGANIZATION

Doctor Beaton placed in nomination the name of Clarence E. Yount, Jr., M.D. as Chairman of the Board for the ensuing fiscal year 1960-61.

It was moved, seconded and unanimously carried that the nominations be closed, the Secretary declaring Doctor Yount, Jr. unanimously elected Chairman of the Board for the ensuing fiscal year 1960-61, whereupon Doctor Yount assumed the Chair on relinquishing of the gavel by Doctor Smith.

#### COMMITTEE MEMBERSHIP APPOINTMENTS

The following committee membership appointments were made by the President, Lindsay E. Beaton, M.D., for approval by the Board of Directors in accordance with the By-Laws of this Association:

See appointments as listed page — this issue.

#### FINANCIAL REPORT — 1960 ANNUAL MEETING

Clarence E. Yount, Jr., M.D. Vice President (as former Treasurer) submitted a financial report setting forth in detail the receipts and expenditures associate with the conduct of the 69th Annual Meeting of this Association held in Scottsdale, Arizona, May 4 through 7, 1960. Expenditures to May 31, 1960 total \$12,346.11; Receipts to this same date total \$12,562.25. Anticipated additional Receipts are estimated at \$1,462.10; estimated Expenditures at \$1,700.00.

The report of the former Treasurer was accepted.

#### 1961 ANNUAL MEETING ARRANGEMENTS — SCIENTIFIC ASSEMBLY COMMITTEE

##### *Location*

Invitations are in hand, received from the HiWay House, Tucson; Safari Hotel, Scottsdale;

and the San Marcos Hotel, Chandler, cordially inviting the Association to use their respective facilities for its 70th (1961) annual meeting.

It was moved, seconded and unanimously carried that the Board of Directors recommend to the Scientific Assembly Committee that the Safari Hotel in Scottsdale be considered for the 1961 annual meeting.

##### *Dates*

The Safari Hotel, Scottsdale, is reserving the following dates for consideration and selection of the Association: Tuesday, April 25, 1961 through Saturday, April 29, 1961; and Tuesday, May 2, 1961 through Saturday, May 6, 1961.

It was moved, seconded and unanimously carried that the dates for the Annual Meeting be April 25 through 29, 1961.

It was moved, seconded and unanimously carried that the scheduling, including the annual Board of Directors meeting and the meetings of the House of Delegates, be as near as possible to that which was employed during the past (1960) meeting.

In the matter of scheduling the annual Golf Tournament, Doctor Smith suggested that the President's Dinner-Dance be held after such event, at which time awards could be presented the Golfers, eliminating the need for a second banquet therefor.

It was moved, seconded and unanimously carried that possibly the Golf Tournament could be scheduled Wednesday morning, April 26, 1961, the awards dinner to be combined with the President's Dinner-Dance (Friday evening, April 28, 1961), subject to final decision of the Scientific Assembly Committee.

##### *Fees*

It was moved and seconded that the Registration Fee of \$10.00 be continued in 1961, which was carried, there being one negative vote cast.

In the matter of Technical Exhibit Fee previously established at \$150.00, question was raised as to the advisability of an increase for 1961. The Executive Secretary reported that such fee is established nationally on the basis of registration, and while 405 was the highest recorded during the Annual Meeting just concluded, it was his opinion, on the basis of the national calculation, an increase is not indicated at this time; however, he agreed to make inquiries during the forthcoming Annual Meeting of A.M.A. Unless there is indication other-

wise, the fee of \$150.00 will be established for 1961.

#### *Guest Speakers — Honorarium*

Doctor Smith proposed that consideration be given to providing for an honorarium for guest speakers, possibly in the sum of \$100.00 to \$150.00, pointing out that it is becoming the practice in other meetings to offer such gift to attract participation.

It was moved, seconded and unanimously carried that the Scientific Assembly Committee be authorized to consider providing some type of gift for guest speakers participating in the 1961 meeting at a cost approximating \$25.00.

#### *Technical Exhibits — Participation*

The Medical and Dental Finance Bureau of Phoenix seeks space at the 1961 Annual Meeting to exhibit its Budget Plan operation.

It was moved, seconded and unanimously carried that the Scientific Assembly Committee continue its present policy, limiting technical exhibits to ethical pharmaceutical, instrument and equipment supply firms.

### MEMBERSHIP CLASSIFICATION CHANGES

#### *Maricopa County Medical Society*

It was moved, seconded and unanimously carried that the Board of Directors approve Associate membership, dues exempt, on the basis of disability (illness), retroactive to December 31, 1959, for Thomas S. Collings, M.D. (Scottsdale) in accordance with recommendation of the Maricopa County Medical Society.

It was moved, seconded and unanimously carried that the request of Maricopa County Medical Society that Frank J. Vigil, M.D., be considered for Associate membership in this Association, dues exempt, account pathology residency at Good Samaritan Hospital, Phoenix, be returned to determine its ruling as to qualifications for membership in the Society.

### COMMUNICATIONS

#### *Arizona Pharmaceutical Association — Appreciation for Plaque Award*

The Arizona Pharmaceutical Association, Inc., by letter dated May 9, 1960, on behalf of the pharmacists of this State, thanked this Association for the plaque awarded to it for its participation in the Arizona Plan for contributions to the American Medical Education Foundation. The plaque will be hung with pride in its Associ-

ation offices and it is felt certain its members will increasingly take advantage of this method of expressing their appreciation to their physician friends to the mutual benefit of both professions.

Received and filed.

#### *Arizona Pharmaceutical Association, Inc. — Resolutions*

The Arizona Pharmaceutical Association, Inc. called attention to three resolutions passed by it during its annual meeting held in April last; i.e. Resolution No. 5 opposing any outside regulations which stifle the profession's and industry's incentive to further progress in research and development which would militate against the welfare of its profession, which would restrict the free choice of drugs by physicians and which would regiment against good medical practice and undermine one of our Nation's most precious assets — the highest health standards in the world today; Resolution No. 6 rigidly opposing H.R. 4700, the Forand Bill, or any other similar legislation which can be classed as a deliberate intrusion on the private practice of medicine and pharmacy and that all association membership voice objection to its elected representatives in the 86th Congress; and Resolution No. 7 that the Association give immediate consideration to formulating a suggested amendment to the Food, Drug and Cosmetic Act which would eliminate mail traffic in prescription documents.

Received, filed and Association commended for its actions.

#### *The National Foundation*

The National Foundation advises Leslie B. Smith, M.D., nominated by this Association, has accepted reappointment for the second year to serve on the Foundation's Health Scholarship Committee.

Received and filed.

### OTHER BUSINESS

#### *Medical Service Committee — Youngtown*

Miss Dina Rees Evans, Chairman of the Committee on Medical Service for Youngtown, Arizona, by letter dated May 5, 1960, seeks in its behalf counsel of this Association in its exploration of possibilities of developing some sort of civic medical center, the chief function of which would be preventive supervision, advice as to source of treatment, and immediate availability in cases of emergency, subsidized by regular

contributions from members of the community.

It was directed that this matter be referred to the Professional Committee for review and comment, as soon as possible, and that Miss Evans be so informed.

#### *1960-1961 AARS Essay Contest*

The Woman's Auxiliary to this Association seeks guidance as to its participation in the 1961 AAPS Essay Contest.

It was moved and seconded that we inform the (Woman's) Auxiliary we would support them in this Essay Contest in cooperation with AAPS this year. The motion was lost.

It was moved, seconded and unanimously carried that Miss Ann DeLeeuw be commended for her success in the 1960 Medical Essay Contest, achieving the national second prize on the subject: "The Advantages of Private Medical Care." *House of Delegates — Resolution 2-A*

Resolution No. 2-A referable to the inclusion of doctors of medicine under the provisions of the Social Security Act, adopted, as amended, by the House of Delegates of this Association, May 6, 1960, had attached to it a recommendation of the Reference Committee on Resolutions, likewise adopted, that the Board of Directors develop an educational program for our (Association) members, explaining the reasons underlying the position of the House on this issue.

It was moved, seconded and unanimously carried that this matter be referred to the Medical Economics Committee for implementation.

#### *House of Delegates — Resolution 5*

Resolution No. 5, recommending repeal of that portion of the statutes requiring a standard serologic test, though not adopted by the House of Delegates of this Association, May 6, 1960, the Reference Committee on Resolutions recommended the following:

1. "That the resolution (as amended) be referred back to the Board of Directors of our Association for whatever action the Board deems advisable, bearing in mind that a number of other State organizations had a vital interest in the promotion and passage of this statute as a law of our State; and
2. "That the Board (of Directors) be requested to report back to this House of Delegates at its next regular meeting (with) their recommendations for further implementation of this resolution."

DOCTOR BEATON: I took the trouble to check up on how this resolution came out of

this Board of Directors and I'd like it stated for the record because the resolution was presented on the floor of the House as coming from the Board of Directors and it did, but we had received a resolution written by the Professional Committee by its sub-committee on Venereal Diseases and we re-wrote that resolution for the Professional Committee and then presented it over our name because we had re-written it. However, this did come, not out of this Board but out of the Professional Committee, and this was unfortunately not made clear on the floor of the House because we had all forgotten it. I presume it had been studied by the Professional Committee before it was made.

Referred to the Executive Committee with the specific direction that it meet with representatives of the Arizona Ministerial Association regarding medicine's position on the subject and report back to the Board of Directors.

#### *Pima County Medical Society — Temporary Permits.*

The Pima County Medical Society, by letter dated May 18, 1960, advises that its Board of Directors, in meeting held April 28, 1960, moved that the Society recommend to the Legislative Committee of the Association that it give consideration and support to a change in the Medical Practice Act, Section 67-1103, in order that a qualified individual may receive his license to practice when he has met the necessary legal requirements, excepting that of being present at a quarterly meeting of the Board of Medical Examiners.

It was directed that this matter be referred to the Board of Medical Examiners with a copy of letter above referred to, together with a transcript of the comments in discussion; also, that the Legislative Committee similarly receive such data.

#### *Flagstaff Community Hospital vs. Blue Cross*

Doctor Young reported in detail the controversy following determination of the Flagstaff Community Hospital to withdraw from Blue Cross participation. It appears there is now a possibility of mutual understanding and solution of the problem.

#### *American Registry of Doctors' Nurses*

Doctor Smith presented for the Board's information a notice that "American Registry of Doctors' Nurses has consented to a Federal Trade Commission order that it stop misrepresenting itself as a nonprofit organization. Noting that



the A.R.D.N. sells 'memberships . . . certificates, pins, emblems, and other insignia . . . to persons employed in doctors' offices,' the F.T.C. said the company 'creates the false impression (that it) is a nonprofit organization of professional nurses when it is purely and simply a money-making operation conducted solely to sell these items.'

"NOTE: On May 30, 1959 a news release was received stating that 'The American Association of Doctors' Nurses, a new nonprofit Association, has just been incorporated and has assumed the membership of the old American Registry of Doctors' Nurses.' Offices continue to be located in Washington, D.C."

#### *Board of Directors Meetings*

For the information of the Board, Doctor Beaton presented an anticipated schedule of five (5) meetings of the Board following determination and creation of an Executive Committee as follows:

1. Meeting in October (to clear up summer business)
2. Meeting in December (to anticipate Legislation)
3. Meeting in February (to consider current Legislation matters)
4. Meeting in April (Annual Meeting)
5. Meeting in June (Required for Committee appointments)

Meeting adjourned at 4:20 P.M.

Lorel A. Stapley, M.D.  
Secretary

### **ARIZONA AWARDS**

The instigation of rendering an award to the best scientific paper submitted for representation to The Arizona Medical Association Meeting, was highly successful. The award this year was given to Dr. Charles A. Stephens, Jr., who read an excellent paper on Anti-coagulation.

A second award has been established for the 1961 Meeting. This award will be given to those who present the best scientific exhibit.

We realize that there is great medical talent in the State of Arizona, hence, the awards were established in hopes that it would stimulate the talented to share their works with the other members of our society. It is our vibrant hope that many of you will get busy now, so that your papers and exhibit will be recorded in due time to be processed for our 1961 meeting.

LBS

## **YOUR PROFESSIONAL GROUP ACCIDENT AND SICKNESS INSURANCE POLICY**

**Approved and Recommended by  
Your Insurance Committee and  
Board of Directors**



**A Program Designed For  
The Members Of  
THE ARIZONA MEDICAL  
ASSOCIATION, INC.**

**By The  
NATIONAL CASUALTY COMPANY  
OF DETROIT**



For Complete Information

#### **CONTACT**

**CHARLES A. DELEEuw**

**3424 N. Central Ave. — AMherst 6-2403**

**PIMA COUNTY REPRESENTATIVE**

**RONALD DEITRICH**

**725 East Broadway**

**MAin 3-0583**

*Medical Society of the  
United States and Mexico*

## Fifth Annual Meeting

**NOVEMBER 8-12, 1960**

Recent reports from Dr. Chavez in Guadalajara indicate that the scientific portion of the program for the next meeting of the Medical Society of the United States and Mexico is taking shape. On this side of the border we have been entrusted with arranging the American portion of the scientific program. So far we have the following commitments on a fairly permanent basis:

Dr. Harry E. Thompson — The Diagnosis and Treatment of Systemic Lupus.

Dr. Henry P. Limbacher — Poisonous Stings in Southwestern United States.

Dr. Fred Landeen — A new Technique for Caudal Anesthesia.

Dr. John E. Scarff — Principles and Practices in the Treatment of Hydrocephalus.

Dr. Walter Stevenson — Differential Diagnosis of the Red Eye.

In addition to the above, in all likelihood there will be a contribution from Dr. Maxwell Lockie, famous American rheumatologist, and by Dr. Lester Dragstedt.

We are anxious to secure at least one or two papers from the Phoenix area.

Dr. Chavez further informs us that if approximately 150 persons will plan to travel from the United States via Nogales by rail that a special train can be secured. The same is true of the trip between Guadalajara and Mazatlan and also return trip from there.

An announcement of this meeting is appearing in seven national journals, and a note has also been published in the Roundup, the official organ of the Maricopa County Medical Society.

In all likelihood, very soon an announcement will be forthcoming from Mexico to the entire membership containing more details as to both the program and entertainment schedule, accommodations, etc., following which a questionnaire will be mailed from our American headquarters to the American membership in order to secure an estimate of the number of members and family and guests who plan to attend so that the logistics of accommodations and entertainment can be better organized.

Juan E. Fonseca, M.D.



**6-10 HOURS  
SUSTAINED THERAPY**

### **AMOdex ADVANTAGES**

**HIGH-LEVEL ANOREXIGENIC  
ACTIVITY WITHOUT  
NERVOUS EXCITATION  
SMOOTH, UNIFORM  
ACTION  
THERAPEUTIC EFFECT  
LASTING 6 TO 10 HOURS  
ONLY ONE DOSE DAILY  
CLINICALLY ECONOMICAL  
TO THE PATIENT**

*Timed AMOdex CAPSULES* are manufactured under these patent numbers:  
2,736,682 - 2,809,916  
2,809,917 - 2,809,918  
Which provide prolonged, continuous therapeutic effect over a period of 6-10 hours

## **ONE and only ONE Timed AMOdex CAPSULE**

**PER  
DAY will economically  
control appetite in weight reduction  
or relieve the nervous symptoms of  
anxiety and the underlying depression.**

*Timed AMOdex CAPSULES* (Testagar) furnish a controlled uniform action. The medications provide prolonged, continuous therapeutic effect from active ingredients over a period of 6 to 10 hours.

Following ingestion of one *Timed AMOdex CAPSULE*, small amounts of the medication are released immediately.

Each *Timed AMOdex CAPSULE* contains a daily therapeutic dose of:

Dextro-amphetamine hydrochloride . . . . .	15 mg.,
Amobarbital . . . . .	60 mg.

### **PROTRACTED THERAPEUTIC EFFECT**

Before the development of *Timed AMOdex* (Testagar) the usual dose of Dextro-amphetamine hydrochloride, for the control of appetite, was one 5 mg. tablet two or three times a day. The usual dose of Amobarbital ranged from 20 to 40 mg., two or three times a day. On such a dosage regimen the absorption of the drugs, after ingestion, takes place quite rapidly. The therapeutic activity occurs within one-half to one hour. When the therapeutic peak is reached, a gradual decline takes place. At this point, the patient should receive another dose of medication . . . the cycle is then repeated.

Patients frequently fail to follow the physician's instructions. They take medication at irregular intervals. When this occurs with drugs such as dextro-amphetamine sulfate, phosphate or hydrochloride, excitation may result. A balanced combination of Dextro-amphetamine hydrochloride, the preferred salt, plus a balanced daily dose of Amobarbital will give the expected therapeutic results *without* excitation.

*Timed AMOdex*, after ingestion, releases Dextro-amphetamine Hydrochloride and Amobarbital steadily and uniformly over a period of 6 to 10 hours. Therefore, the physician may dispense with the usual dosage schedule thereby *attaining better control of therapy*. The patient will receive the benefits of even and sustained therapeutic effects. Side reactions such as anxiety and excitation are greatly minimized.

### **ACTION AND USES**

*Timed AMOdex CAPSULES* (Testagar) supply the antidepressant and mood-elevating effects of Dextro-amphetamine hydrochloride and the calming action of Amobarbital. *Timed AMOdex* elevates the mood, relieves nervous tension, restores emotional stability and the capacity for mental and physical effort.

### **INDICATIONS**

*Timed AMOdex* is the preferred treatment in anxiety states and in the management of obesity. *Timed AMOdex* may also be used in the treatment of Depressive states, Alcoholism, Nausea and Vomiting of Pregnancy.

**DOSAGE** The Daily Dose of *Timed AMOdex* (Testagar) IS ONE CAPSULE ON ARISING OR AT BREAKFAST.

**SUPPLIED** Bottles of 100 and 1000 capsules, available at all pharmacies. Also supplied in half strength as *Timed AMOdex, Jr.*

**SAMPLES AND LITERATURE  
UPON REQUEST**

**Testagar & co., inc.** 1354 W. Lefayette Blvd. Detroit 26, Michigan

## Editorial

### "THE CRISIS IN AMERICAN MEDICINE"

"How, for example, can the patient benefit from the specialization of medicine and still be treated as a whole human being? How can specialists themselves best collaborate as healers and scientists? Can the inflationary spiral in health costs be checked? What are the most fruitful methods and areas for research and how shall they be financed? What new moral issues are posed by the achievements of modern medicine in prolonging life? Can we safeguard future generations against the stresses and hazards of our technology and civilization?"

"In trying to grapple with these disturbing questions, Americans are burdened with one unique handicap: Ours is the only western nation in which the leaders of the medical pro-

fession — with few exceptions — are unwilling to come to grips with these hard realities.

"Occasionally, to be sure, a lonely maverick speaks up. Seldom, however, does he enjoy sufficient eminence in his own profession to command a respectful hearing from his colleagues. Medicine's men of distinction are notably reticent on public issues and their organizations — both national and local — are massive lobbies for the status quo rather than open forums for the discussion of new ideas.

"One of the rare variants from this pattern is Dr. Norton S. Brown, who served as president of the New York County Medical Society in 1959. 'We are in the midst of a mammoth and complicated social change,' he said in his inaug-

## ARIZONA MEDICINE

Journal of

The ARIZONA MEDICAL ASSOCIATION, Inc.

AND

MEDICAL SOCIETY OF THE  
UNITED STATES AND MEXICO

VOL. 17 SEPTEMBER, 1960 NO. 9

Darwin W. Neubauer, M.D. .... Editor  
Louis G. Jekel, M.D. .... Assistant Editor

#### EDITORIAL BOARD

Andre J. Bruwer, M.D. .... Juan E. Fonseca, M.D.  
Richard L. Dexter, M.D. .... Clarence L. Robbins, M.D.  
Leslie B. Smith, M.D.

#### ASSOCIATE EDITORS

Charles W. Elkins, M.D. .... Neurosurgery  
Jesse D. Hamer, M.D. .... American Medical Ass'n. & Legislation  
A. K. Hansen, M.D. .... Ophthalmology  
John Kennedy, M.D. .... Historical Section  
Robert Lacock, M.D. .... Ob-Gyn.  
William B. McGrath, M.D. .... Neuro-psychiatry  
Augusto Ortiz, M.D. .... Medical Society of U. S. and Mexico  
C. Thomas Read, M.D. .... Chest Surgery  
Gerd Schloss, M.D. .... Pathology  
Paul L. Singer, M.D. .... Genito-Urinary  
L. D. Sprague, M.D. .... Medical Economics  
Alvin L. Swenson, M.D. .... Orthopedics  
Roger F. White, M.D. .... Pediatrics

#### FORMER EDITORS

Frank Milloy, M.D. .... Jan. 1944-Oct. 1952  
R. L. Foster, M.D. .... Nov. 1952-April 1956

#### ADVERTISING AND SUBSCRIPTION OFFICES

Paul R. Boykin, Business Manager  
1021 Central Towers, Phoenix, Arizona  
Eastern Representative  
A. J. Jackson, President  
State Medical Journal Advertising Bureau  
510 N. Dearborn St., Chicago 10, Illinois

"The material in this journal is not copyrighted. We would like to ask that anyone using material from it note the previous publication in ARIZONA MEDICINE."

#### CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

(The opinions expressed in the original contributions do not necessarily express the opinion of the Editorial Board.)



ural address. 'Medicine used to be a private concession operated by doctors for doctors. It has now become a public utility operated by doctors in cooperation with other segments of our society. In many areas we have a bad name and are synonymous with obstructionists. . . . We have been bemused by slogans and think they solve our problems instead of using our diagnostic objectivity as physicians. We need to develop a working philosophy based on reason, not on inaccurate cliches loaded with emotion. We must begin with a serious evaluation of ourselves and our place in a rapidly changing society.'

"The aloofness of the medical profession from these social issues is central to the crisis facing American medicine which is sketched in the . . . (*Harper's* - October issue). Indeed, the unwillingness or inability of many distinguished doctors to engage in forthright discussion of the socio-economic aspects of their profession created a major editorial dilemma in preparing this supplement. Our contributors are, in the main, informed laymen with specialized knowledge of the fields they discuss. They have highlighted some of the chief trouble areas and proposed remedies. In each instance the help of doctors is needed to effect a cure. How then can they be persuaded to join in the effort?

"As a beginning, the problem of the nation's health must be lifted out of the atmosphere of partisan controversy in which it has bogged down for the past thirty years. This might be accomplished by a presidentially-appointed group with the stature of a British Royal Commission. Its members must be men and women whose wisdom and objectivity are above question. Preferably they should have no prior connection with or commitment to medical matters, but should seek the counsel of experts and evaluate it with complete detachment. They would shun the limelight in the course of their study. And they would be required to do much more than compile still another catalogue of familiar statistics. The facts have long since been assembled. The reports are printed and awaiting the discerning and dispassionate reader. The goal of the commission - should one be created - should be a blueprint of our medical future, a program encompassing all aspects of the problem as a basis for rational debate and decisive action.

"It is too late for mere delaying tactics. American doctors may find themselves helpless bystanders in a course of events they have done nothing to shape unless they are willing to accept the true dimension of the nation's health needs and dissatisfactions. This supplement is an attempt to lay some portions of the problem squarely on the table."

The above is a rough draft of part of the foreword to the supplement of the October issue of *Harper's Magazine*. It will present problems we must face and solve. As encouraged in accompanying editorials of this and past issues, the medical profession must enter into the socio-economic changes that are taking place in the United States. If medical care to the people of America can be improved, and it can be, we must enter into and guide those changes.

This special supplement of *Harper's Magazine* in October on "The Crisis in American Medicine" will have the following make-up:

FOREWORD: An appeal for an unbiased reappraisal of the nation's health problems and a fresh, non-partisan effort to solve them.

#### THE POLITICS OF MEDICINE

*Edward T. Chase*

The anatomy of power - in county medical societies, the AMA, medical schools, and hospital hierarchies - and its impact on the cost and quality of our medical care.

#### THE DECLINE OF THE HEALING ART

*Selig Greenberg*

What can be done about the conflict between the patient's need to get well and the doctor's need to be paid.

#### DO YOU WANT A FAMILY DOCTOR?

*David D. Rutstein, M.D.*

*Chairman, Dept. of Preventive Medicine  
Harvard Medical School*

Proposal for drastic changes in medical education - to produce the quantity and kind of physicians we need.

#### TOMORROW'S HOSPITALS

*Martin Cherkasky, M.D.*

*Director of Montefiore Hospital  
and Maya Pines*

Blueprint of the coming community health centers whose job will include supervising home care, nursing homes, and the treatment of most mental illness.

## THE REAL BOTTLENECK IN RESEARCH

*John Russell*

*President, Markle Foundation*

Why spending millions of dollars will not solve — and may actually delay — the solution of major riddles still baffling medical science.

## DEATH BE GOOD

*Joseph Fletcher*

*Professor of Ethics and Moral Theology  
Episcopal Theological School, Cambridge*

The moral issue posed by senility and hopeless illness — and a bold answer to a profoundly disturbing — and growing — problem.

## BEYOND TRADITIONAL MEDICINE

*Rene J. Dubos*

*Member and Professor,  
Rockefeller Institute*

A challenge to doctors to take the lead in changing the factors in our environment which threaten our health and that of future generations.

## A DOCTOR PRESCRIBES FOR HIS PROFESSION

*Lindsay E. Beaton, M.D.*

*President, Arizona Medical Association, Inc.*

Excerpts from Dr. Beaton's inaugural address as President of the Arizona Medical Association.

We encourage that you read and analyze this special supplement. It will be released nationally September 29. Your comment is invited.

## THE PATIENTS WILL LOSE

The observations of Dr. John Green, based upon his recent first hand study of governmental medicine in Europe, (See letter to Editor) emphasize the stand which medicine should take toward socialized, state, governmental or bureaucratic medicine. Namely, "it is the patient who loses," not the doctor, because in a socialized system the doctor's relative social-economic position remains about the same. In our true altruistic approach we should make this point clear to all those who control their political fate — the voters. We must find a way to educate the public as to our purpose as based on historical facts.

It is not paradoxical that those doctors who are foremost in the battles against state-medicine are those who are not in the higher brackets of

medical-income. The doctors who are active in their efforts to stop socialized medicine are those who are sincere and devout in their desires to support a system of medicine which will best serve their patients — the public. These same doctors contribute their time from leisure pursuits, time from their work which could be otherwise remunerative and do so without thought of personal gain. These are the doctors who not only serve their patients with honest consideration but also fulfill their duties as citizens in their church and civic organizations.

It is ironical that the image of the present-day doctor is that of a mercenary individual, and therefore, all statements and actions of medicine are branded as purely selfish.

The President of our Arizona Medical Association has admonished us well (see *Arizona Medicine* June 1960). He stated, "The rational exception to bureaucratic power over medicine — by government, labor, or business — is for intellectual and professional reasons, not economic ones. Such control would put the care of the ill into the hands of managers and administrators who are indifferent and actually hostile to science." It may be further stated that these third-party-medical-men, besides being hostile to science, will be non-sympathetic to the existence of the souls of men with indifference to man's delicate and intricate sociologic, psychologic and physiologic structure.

Dr. Green is correct — it will be the patients who lose and not the doctors. These doctors, who, without proper identification, are actually fighting the battle for humanity rather than for selfish gain, or as stated by Dr. Beaton, "because it would squeeze our pocketbooks."

Our desire to assure the future generations the best health care may be stymied, to a great extent, by the political philosophies of those who seek election this next fall. We will have to align ourselves with those whose proposal is the lesser of the two evils, and continue our efforts to prevent a catastrophe.

L.B.S.

## PENNSYLVANIA MEDICAL SOCIETY PROGRAM

The Pennsylvania Medical Society has under study a program for improved medical service. This is pioneering by a group of physicians in the 10th Councilor District of Pennsylvania, five counties in the area of Pittsburgh. It is an effort

to provide good medical care under the free enterprise auspices of medical societies.

"The Program seeks to insure the provision of high quality health care at reasonable costs through acceptance of a group responsibility by physicians acting through their medical societies, and by co-operation among the health care service partners — physicians, hospitals, prepayment agencies, health insurance carriers, and the medical societies — to serve consumers more efficiently. A system of evaluation and review procedures, guided by established standards for the quality, cost and utilization of health care, provides the controls against misuse and the stimulus for progressive improvement in performance."

The members of The Arizona Medical Association should watch this pilot program closely. It would appear likely that barring unforeseen difficulties it will be adopted and put into practice by the 12,000 physicians of the Pennsylvania Medical Society.

The plan will assist the patients in being financially prepared for their health care needs by the use of appropriate prepayment plans. Representatives of the medical societies must be willing to consult with consumer groups and assist in adapting health care plans to their needs. The Program establishes safeguards to protect the public and the insurance carrier against abuse in care, wasteful use of facilities, or the compromise of high quality standards. The plan will offer an equitable basis for physicians and hospitals to co-operate with third parties in the proper establishing and serving of health care plans. "In return, such agencies are asked to respect medical ethics, to use facilities which serve the whole community, and to provide opportunity for voluntary relationships between patients and physicians."

The Program is designed for application on a regional basis and not as a state-wide plan.

The initiating group in a regional operation is the Medical Care Coordinating Committee. This includes representatives of the county medical societies of that area and provides access to the Grievance Committees of those societies.

Secondly, the Censors Committee supervises the functioning of Credentials Committees, Tissue Committees and Utilization Committees within participating hospitals.

The Publication, "Guide to the Establishment

and Functioning of a Medical Staff Utilization Committee" (available through the Pittsburgh office of the Pennsylvania Medical Society), assists medical staffs on utilization review.

The Utilization Committees serve as a safeguard against unnecessary or excessive hospitalization.

The functions of the Tissue Committees and Credentials Committees are obvious.

Claims Review Committees "evaluate complaints submitted by prepayment agencies or insurance carriers, or complaints by physicians relating to prepaid or insured health care plans; and make advisory recommendations on questions regarding the need for or quality of care, reasonableness of fees, and proper utilization. Cases submitted for review by prepayment or insurance agencies are considered by the review committee panel without knowledge of the names of the physician or patient involved. Either party may appeal the findings of the review committee and appropriate cases are referred to the county society grievance procedure. Complaints from patients regarding physicians are channeled to the county society grievance committee."

The Qualifications Committee "has the purpose of recording the qualifications of participating physicians and of indicating which physicians have been found by their peers to have specialized qualifications. The approach being explored is the preparation of clinical profiles on the physicians."

The Program establishes a code of prepayment-insurance protection principles which form the basis of recommended types of coverage in health care plans.

The Program also provides for the development of a study of relative values to permit the establishment of fairly consistent, reasonable fees for the services of physicians in meeting prepaid or insured health care needs.

The Blue Cross Review Committee is composed of two members from the medical staff of each participating hospital. Two groups of cases are reviewed: a. those whose hospitalization is unnecessary; b. those suspected of overstay at hospitals. These cases are referred to the Utilization Committee of the hospital involved. If there is a claim denial, final evaluation is to be done by the area Blue Cross Advisory Committee.

Health Insurance Review Committee "was established for the purpose of reviewing and advising on questionable claims submitted by the commercial health insurance carriers for this area. Questioned claims are first discussed by the insurance company with the attending physician involved, and if this fails to produce a settlement, are then submitted for review."

Should ARMA investigate this plan? Further information is available through the executive offices of the Pennsylvania Medical Society, 230 State Street, Harrisburg, Pa.

The procedure of reviewing complaints from prepayment and insurance agencies, or from physicians, places the evaluation of the quality, cost and utilization of medical care in the hands of physicians. This is where the responsibility belongs.

Desire it or not, there is a gradual socialization of the U.S. This can be prevented in medicine by governing ourselves. We must prevent the abuses of "the few" by self discipline.

DWN

### QUINCY DOCTORS FIGHT COLD WAR OF CLASSROOMS

Doctors in Quincy, Illinois, are deeply concerned about a vital problem facing our nation today in its race for survival against international communism — the challenge of Soviet education. They are concerned because nation-wide statistics reveal that nearly half of our brightest high school students do not go to college — which is potential leadership material lost in the educational battle that may determine the world struggle between communism and the free world. They are concerned because too few of our profession as well as other citizen groups are taking any action to meet this challenge at the local level.

Over the past four years the doctors of Quincy through the Adams County (Ill.) Medical Society and the Swanberg Medical Foundation have joined with other civic organizations to encourage academic achievement within their own community, and make the public cognizant of the fact that such achievement is a national resource that should not be wasted.

To date the record has been an enviable one under the Quincy Major Learning Program, established in 1956 and "dedicated to a college education for every talented high school gradu-

ate of Quincy and Adams County." Achievements have been many and have gradually expanded over the years to include cash certificate awards to top students of local high school graduating classes and sponsorship of a newly organized non-profit educational program, the Society for Academic Achievement.

This is a program encouraged by our past president, Dr. D. W. Melick. What have we done to further this effort?

It is not enough that we encourage a medical school and establish a Student Loan Fund. We must coordinate our efforts with those of the other specialties so that there is "a college education for every talented high school graduate of Arizona."

DWN

### ANTI-RADIATION PILL

We sincerely hope that the comments of Colonel James Hartgering are more than wishful thinking when he hopes that "a usable anti-radiation pill to protect humans from effects of radioactive materials would be available within two years."

To those of us not trained in the space age, it has been difficult to conceive a medication which prevents damage by a source of energy. We hope it is more than the results reported some years ago at Treasure Island that alcohol in adequate doses would protect mice from irradiation effects. Unfortunately, this level of alcohol was so high as to be toxic in humans.

### NON-PARTICIPATION

What must the medical profession do to convince the thinking citizens of the true reasoning behind our opposition to the third party control of medicine, especially by government?

As previously stated, it will be the recipients of state medicine who will suffer rather than the doctors — we have been unsuccessful in our attempt to reach the general public and must admit that those who desire a radical change in the precepts of our constitutional government have been able to oversell their wares. Their goals have been almost accomplished even though their methods would not pass the basic principles of ethical advertising and salesmanship as laid down by our Better Business Bureau.

The Association of American Physicians and Surgeons has proposed an answer to our dilem-



ma. They propose "Non-Participation". The A.A.P.S. is not a reactionary, negative organization to perpetuate the mercenaries and socially disinterested doctors. It was founded to safeguard that social system which has accomplished the best medical care in the world and to assure the progress of an order which will guarantee deliverance of the best medical care to all.

Non-Participation may be interpreted as repulsive denial of medical care. This is *not the true meaning* of non-participation. Non-Participation does not propose that we would strike and not render service to the sick and afflicted; it relates only to the system of medical practice under which we as physicians would render our care. Non-participation would direct that we continue to render care to the infirm but that we would not do it by a system or scheme which would eventually and inevitably lead to the destruction of the overall quality of medical care. The A.A.P.S. 1957 publication of "Let's Stop Feeding the Crocodile" is reproduced in the "reprints" section of this issue. Reflection on what has been accomplished during the last few years will disclose how history repeats itself. This bite by bite consumption of the medical body by the crocodile (government) will soon devour the brain and flesh, and the soul of man will be extinct.

If we must use the "shocking position" of non-participation to awaken those whom we choose to befriend then there will be no alternative.

LBS

### GOVERNMENT AND PRIVATE MEDICINE

During the past two months my wife and I have had the opportunity to see government and private medicine at first hand in Western Europe. These experiences were mainly in highly developed scientific centers of Rome, Pisa, Padua, Zurich, Paris, Brussels, Antwerp, London, and Edinburgh which I visited in connection with the development of the Barrow Neurological Institute of St. Joseph's Hospital in Phoenix.

*In these systems of government medicine, it is the patient who loses what he needs, far more than the medical profession. He loses (1) personal patient-doctor relationships, (2) personal services that he is used to in our private hospitals, (3) control of who will operate on him (indeed, the British press are up in arms about allegations that two-thirds of the surgery in Brit-*

*ain is being done by trainees), (4) easy access to the hospital (a patient with a brain tumor is placed on a waiting list, and a hernia repair may be delayed for over a year).*

Although the general practitioner and specialist alike lose a certain degree of freedom, the relative economic status of the physician in the community has not been particularly changed. Physicians have little chance for the development of new facilities for the benefit of their patients because of lack of funds for such purposes and bureaucratic control of these funds. The governments find the costs so staggering and competition for funds so great that relatively little is left for the care of patients, let alone for the advancement of medical facilities.

New hospital construction has been virtually non-existent in Britain since the passage of the National Health Service Act of 1948.

The lessons of history show that the members of the medical profession have always led the fight for reforms which would benefit the health of individuals and communities. We must now join with others to stop cold those groups in both political parties who wish to sell this free land of ours an expensive and empty social system! It is equally important to extend our private insurance coverage of patients under a free enterprise system.

The county, state, and Veterans' Hospitals in our country do a good job for their intended purpose, but can you imagine our private patients wanting to be lumped into a chain of such governmental institutions? This is what has happened in Western Europe where the governments have assumed the bills for medical care. I contend that if the people of our nation were aware of how misleading this propaganda about the benefits of Federal medical care is such schemes would be shunned like the plague.

Let us alert our friends and patients that they will eventually lose private medical care if the government takes over one segment of the population after the other through its Social Security System or any other bureaucratic device! The big loser in any such system is the individual patient, and so he should choose his candidates for public office carefully and instruct them regarding what kind of a social system he wishes to live in — free or regimented.

John R. Green, M.D.  
550 West Thomas Road  
Phoenix, Arizona

*In Memoriam*

George L. Dixon, M.D.  
1895 — 1960

Dr. George Lane Dixon, orthopedic surgeon and a Tucsonian since 1934, died March 7, 1960.

Dr. Dixon was born in Burlington, Iowa, July 13, 1895. He attended the public schools in Burlington, received his liberal arts degree from the University of Iowa and graduated from the medical school there in 1922.

His internship and residencies were served in Detroit, Mich., on the staffs of Harper Hospital, Herman Keefer Hospital and Children's Free Hospital.

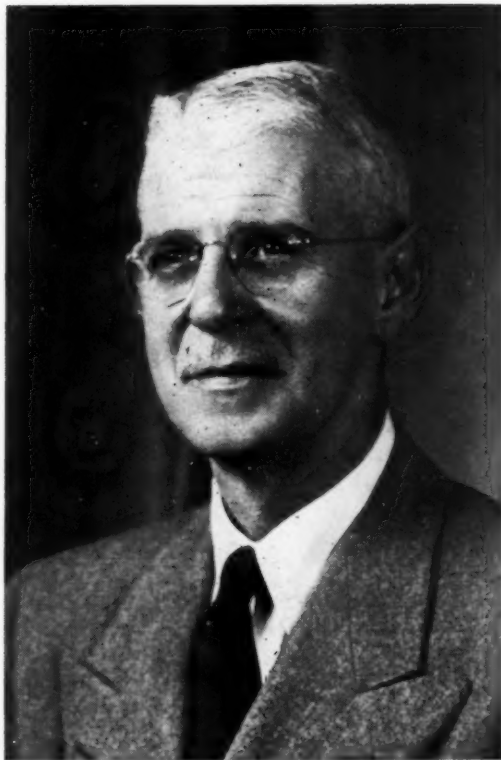
From 1934 Dr. Dixon spent all but two years in Tucson. Between the years 1942 to 1944 he was a staff member of the Los Angeles General Hospital, and also during this time he was an instructor in orthopedic surgery at the University of Southern California. He then returned to Tucson.

Dr. Dixon was a member of the vestry of St. Phillip's-in-the-Hills Church, the Old Pueblo Club and a charter member of the Tucson Country Club.

He served as chairman of the Medical Advisory Board of the Pima County Chapter of Infantile Paralysis, Advisory Board of the Cerebral Palsy Assn. of Tucson, 1950-55, and was a staff member of the Crippled Children's Division of the State of Arizona.

Dr. Dixon also organized the orthopedic department in the Veterans Administration Hospital, Tucson.

He was a member of the Iowa State Medical Society, Des Moines (Iowa) County Medical Society; president of the Pima County Medical Society in 1945; and a member of the Arizona Medical Association, Western Orthopedic Soci-



GEORGE LANE DIXON, M.D.

ety, American Medical Association, and the American Academy of Orthopedic Surgery. He was a fellow of the American College of Surgeons and a diplomate of the American Board of Orthopedic Surgery.

Dr. Dixon's scientific writings appeared in the *Journal of the American Medical Association* in 1937 and in the *Physiotherapy Review* in 1944.

His widow, Ellen Dixon, resides in their Catalina Foothills Estates home, Route 5, Box 77, Tucson. There are one daughter, Mrs. John (Sally) Wiener of Scarsdale, N. Y., one son, Capt. George L. Dixon, Jr., of the U. S. Army Medical Corps, and six grandchildren.

#### RESOLUTION

WHEREAS, the death of George Lane Dixon, M.D., in his 65th year, marks the end of a distinguished career in the profession of medicine,

in no sense does it end his influence for good in the community where he served so faithfully and so productively, and

WHEREAS, in particular, his colleagues in medicine keenly feel the loss of a gentle and genial companion who freely gave guidance and counsel throughout the many years he served the Pima County Medical Society in various offices of responsibility, including the Presidency, and who in latter years gave an unforgettable example of personal courage in adversity, BE IT THEREFORE

RESOLVED: That the Pima County Medical Society inscribe in its permanent records its recognition of enduring gratitude to an honored friend and fellow physician, and convey to Doctor Dixon's family an expression of deep sympathy in their bereavement.

## *Topics of Current Medical Interest*

# Humor and Pathos of Physicians Practice in a Mexican Mining Camp

By

**Dr. W. W. Watkins**

Sidelights on the substrata of society of any race are always of interest, probably because of an instinctive sympathy for the "under-dog." The Mexican peon is an interesting sociological study. To a physician who, in any community sees the inner life of its people more closely than any one else can, these people present many an insight into their individual and racial character, to describe which a few incidents may be cited, amusing, pathetic and perhaps instructive.

Metcalf, Graham county, furnishes the ore supply for the Arizona and Shannon Copper companies, the third and fifth companies respectively, in copper production in this territory. It was here the writer went on a hurry call as mine physician for the Shannon Copper company, remaining there fourteen months. The camp has about 4500 population, of which number fully 4200 are typical Mexican peons. The smelters, general offices and hospitals of these two companies are located at Clifton, while each company maintains a medical department, in charge of a physician, at its Metcalf mines. This camp is 1000 feet higher than Clifton and six miles distant. The two camps are connected

by a railroad running up through a narrow gorge, whose precipitous, copper-stained jagged cliffs rise 1000 feet on either side. It may be of interest to know that this six miles was once traversed by an 18-inch track, and that this baby-gauge road was the first railroad built in Arizona. It was constructed in the early 70s, the material being packed on burros and the engine hauled by oxen from Vera Cruz, Mex., a distance of 750 miles. Portions of this old road-bed remain and the little pioneer engine is still at Clifton. (1907).

At Metcalf the mines are all near the summits of the mountains, the ore being delivered to track level by inclined railways and cable cars run by gravity, the loader car hauling the empty one up. The Shannon incline is said to be the steepest of its kind in the world, having a depression of 52 degrees, and to stand at the foot and see its top one must look almost directly up. To ride up or down it on the ore cars is a dangerous pastime, and it was, by this route the writer first reached the summit of Shannon hill. These cars have a capacity of ten tons and are emptied by means of a trap door into large bins, from which the ore is delivered to railroad hoppers. That it is not without danger this hair-raising experience of the old master mechanic at the mine will testify. He rode down, as was his custom, sitting on the ore within the

*EDITORS NOTE: The late Dr. W. W. Watkins was a raconteur extraordinaire. This account was originally published in the Arizona Gazette, Phoenix, October 2, 1907, 16:1:7 (JWK)*



car. On reaching the bottom, the laborer there did not see him and quickly opened the trap door, and the old man shot through the bottom of the car, down a 20-foot chute into the bin along with eight tons of ore, but, wonderful to say, with no more serious injury than multiple bruises and a severe shock.

The mine employs about 850 men, and these, with their families, are the charge of the mine physician. Of this number only about 50 speak English, the others being imported Mexican labor. These Mexicans live almost entirely in Metcalf camp, which one can see like a panoramic map 1100 feet below the hill. In the afternoon the outgoing physician and myself went down into the camp and I was introduced to twenty-three patients as "El doctor nuevo del Cerro Prieto," or "The new doctor of Black Mountain," as Shannon hill was known. Of these patients only one spoke English, and I could not speak a word of Spanish. The doctor returned to Clifton the same afternoon, leaving me shiveringly afraid that some of the newly acquired patients might be taken suddenly ill and call me in; truly a novel sensation for a physician!

The number of patients (twenty-three) was much in my mind as I endeavored, the next day, to make a newly-acquired vocabulary of a dozen Spanish words to cover all portions of the human anatomy, the ills to which it is heir and the directions to accompany the medicine. The drugs themselves and the treatment, fortunately, it was not necessary to translate, as, like all physicians, I considered this no part of the patient's privilege to know. The office was well stocked with drugs, but at the outset therapeutics were necessarily very limited and empirical, especially with office patients. When an interpreter was not handy, diagnosis was made by deduction from signs and expressions. Knowing the word for pain (*dolor*), if the applicant for relief accompanied this with expressive motions in the region of his abdomen, the diagnosis and treatment were plain — indigestion from a too abundant consumption of frijoles; ergo, calomel and castor oil. Did he reach behind, rub his back and grunt, a "parche" (plaster) both satisfied and relieved him. A thump on the chest and a cough indicated an expectorant. For more serious troubles an interpreter could be secured, but under the exigencies of the situation, the language came rapidly. In handling a half-

learned language, amusing errors often happened — one I remember which barely escaped being serious. In giving instructions for the diet of a *senorita* just convalescent from typhoid, I attempted to direct how to boil an egg (*huevo*) soft; place in boiling water, let it remain three minutes, remove and feed to the patient. The mother of the girl was much surprised at the directions, but assented. On returning to the hill, the reason for her surprise suddenly flashed on me; I had used the word for cheese (*queso*) in speaking of an egg. Hastening back, I found her following instructions literally, boiling a piece of cheese to feed the patient. This family, in which occurred three typhoids, always obeyed instructions to the letter, which was contrary to the rule.

All the Americans in camp were eager and willing to assist the physician and some of them had no mean idea of their ability. While down in the camp one day, a hurry call came to return immediately. A man was lying in the office with a compound fracture of the leg, and one or two Americans were anxiously endeavoring to relieve his suffering; to this end one of them had fed him three headache tablets and wanted to know if he should continue this treatment!

Another occasion, on returning from Metcalf, the mining engineer of the company was found standing over a six-foot Mexican, adjuring him to be quiet; that there was nothing the matter with him. He had made an examination and said there was nothing worse than a few bruises, but thought better to wait for me before making the man walk home. On re-examination, both collar bones and eight ribs were found fractured!

In contradiction of the popular belief regarding Mexican peons, they are not essentially different from a similar class of other races. Their greatest fault is ignorance, and to this can be traced all their vices. They showed an appreciation of kindness, which was surprising to one who had heard only evil of them. They are generous, intensely sympathetic, and, as a rule, courteous. They are extremely superstitious, credulous and easily panic-stricken. The following incidents will show some of these characteristics:

One night a hurry call was brought to come to the relief of a *senora* who was "paralyzed and dying." It was very dark and a drizzling rain was falling; a ride down the steep trail

on a mule under these circumstances to find the patient sitting up in bed frantically waiving her hands and complaining that she could not sleep was very trying on a man's temper. This experience was repeated a month or two later when an anxious husband appeared in the office and breathlessly informed me that his wife had been suddenly paralysed. She, too, had chosen the darkest night of the month and the husband strenuously objected to the loss of time necessary to saddle a horse. When we reached the shanty this patient was also surrounded by sympathetic friends who listened to her complaints enforced by vigorous gesticulations of her paralysed limbs. To effectually relieve her distress and make a warm friend of the family, required only the generous administration of six sugar pills. A few cases like this soon taught me to take description of symptoms from these people "cum grano salis."

The great majority of Mexicans living in any sort of hovel they could procure and the unsanitary condition of the camp, their personal uncleanness and the extreme laxity in carrying out directions, worked great hardship on them, especially on the small children. The Mexican peons show a staggering refutation of any idea of race suicide, the number of children in any family usually corresponding closely to the number of years married, and every child owns a dog so that 'twas often remarked that the best way to take the census of a Mexican camp is to count the dogs.

Their disregard for directions was often annoying. There was a patient with typhoid fever, a boy of ten years. He was very ill and taking precaution to secure an interpreter; full directions were given, among them was that he was to be kept absolutely quiet in bed and have nothing to eat or drink but milk, broth and water. To all his mother assented readily, but on returning in the afternoon, the boy was sitting on the edge of the bed eagerly devouring a tortilla six inches in diameter, with a temperature of 104 and pulse 150! He got well.

Another time a woman wanted treatment for her baby who was suffering with dysentery, which was very prevalent in that camp. She stated that he was 8 months old, took food from the breast, and ate absolutely nothing else. Going in to see the infant, there he was, unwashed, naked, sitting in a soap box and with four half-grown incisors was biting chunks out of a raw

"spud" and swallowing them. The mother promised to modify the diet but could see no reason for it.

At births the writer often acted as nurse, bathing and dressing the newborn babe and incidentally adding to the theory of pediatrics a knowledge of a Mexican baby's wardrobe, the intricacies of which are mystifying. With a towel across the knees to form an artificial lap I would take from the mother garment after garment and endeavor to solve the problem it contained until the baby and I were both lost — he in a multiplicity of garments; I in a maze of bewilderment.

As is usual with mining companies, each man was charged a monthly hospital fee for which he received free medical, surgical and hospital attention, as well as life insurance. Naturally, the Mexicans often felt it a Christian duty to obtain value received for their money. If they could not manage to stand under falling gravel and sustain a trifling injury, they would regularly show up at the office to secure medicine for some ailment — often fictitious. An hombre pranced into the office one day with the complaint that he had a violent pain under his belt buckle. After an inquiry or two I gave him a remedy. Glancing out of the window as he left, he was seen to throw it away. When he came back in some days later with the same complaint, I mixed the vilest concoction possible and told him to drink it; he protested that he wanted something to take when he reached home, but I insisted and he was game. He swallowed the mixture; said "gracias" and went out laughing. They enjoy a joke immensely; can be easily jollied but do not readily forgive an injury, becoming surly and resentful when roughly spoken to.

An instance of their superstition: There was a cave-in which killed four miners; these were laid out in a room attached to the office where they remained about half the night. On the other side of the office is the temporary hospital room with beds for men awaiting transfer to Clifton. Some days later a man was brought in with a crushed foot. After dressing the foot I wanted him to sleep in one of these beds till the morning. He flatly refused to stay even with a companion — whom he rightly suspected might take fright and leave him — in the house "with the dead men." So he spent the night sitting out in the open on a pile of lumber.

But the incidents were not always humorous. Accidents occurred which tried the souls of men and brought home to us the truth which we sometimes try to deny, that a man is a man whatever be his station in life. That in the presence of death we may often see under the cover of ignorance an innate heroism, which we might honor. One morning about 10 o'clock there was a cave-in which caught a man — a Mexican mucker — beneath a column of loose dirt forty feet in height. He lived, for his voice could be heard muffled and pleading for the rescuers to hurry. Every experienced miner and every shift boss, with the foreman and superintendent, rallied to the rescue. The only way to reach him was by driving a tiny tunnel only eighteen inches square into the base of the column of loose muck toward the man, whose situation could be only roughly guessed at. No tools could be used. After it was started a man would lie prone within the tunnel, carefully removing the dirt handful by handful, replacing it by small blocks of wood. This little tunnel was five feet long before they reached the man's feet, and then the rescuer worked along over the buried body, encouraging the man, who still talked as if from a tomb, during the long hours. Every minute they ran the imminent risk of bringing down the entire column of dirt on rescuer and injured alike. Twice it did partially slip, but the men outside would hear it in time and, grasping the rescuer's feet, haul him to safety — and then the work would have to be done over again. At five o'clock the following morning, after nineteen hours of exhausting, heart-breaking work, the man was taken out alive, but the shock was too great and in the reaction from it he died six hours later.

A last instance of heroic acceptance of fate which is not often excelled: An "amigo" of the writer's who had been on the accident list on three occasions, fell down a 40-foot shaft and was brought up with a broken back. He was sent to the hospital, where it soon became apparent that he would not recover. When told this, no man could look unmoved into his startled eyes as the realization of imminent death sank into his consciousness. But he only turned his face away and said: "Bien dios lo quiera" ("It is well: the Lord wills it"). To the writer this stolid, ignorant Mexican peon, with his calm acceptance of fate, realized that highest heroism so beautifully pictured by Bryant of a man meet-

ing death as if he "wrapped the draperies of his couch about him and lay him down to pleasant dreams."

## TUBERCULOSIS IN PIMA COUNTY — 1959

In 1959, through the joint efforts of the TB & Health Association of Pima County and the Board of Visitors of the St. Lukes in the Desert Hospital, located in Tucson, Arizona, funds were provided to employ a physician to act as Tuberculosis Consultant in the Pima County Health Department. This support was to be continued for a limited period of time with the anticipation that the need for such a consultant would be demonstrated, and that the County would then provide for this support.

As part of this work in Tuberculosis, it was felt that an analysis of the local situation should be undertaken. Ever since vital statistics for tuberculosis have been kept for Arizona, Arizona's yearly reports for Newly Reported Case Rates and Death Rates have been about two or three times the National level. It is interesting to note however, that the decline in the Death Rate for Arizona and the Nation have been almost identical in proportion. Arizona has decreased from a rate of 291 in 1931 to 20.8 in 1957, a decrease of 93%. For the National rate there was a decrease from 68 in 1931 to 6.9 in 1957, a decrease of 90%. We can see that Arizona's Death Rate has decreased at the same rate as the National figures, but with the difference in end result is due to the fact that Arizona started with a much higher level.

It was the feeling of the Tuberculosis Consultant, influenced by over twenty years observation and practice of medicine in the community, that there was not an unduly great incidence of newly *diagnosed* cases of tuberculosis in the community to account for the continued high figures for the Newly Reported Case rates in Arizona. An analysis of the Newly Reported Cases, Group "A" (active or probably active) for Pima County, Arizona for 1959 was therefore done. Our situation in the Southwest is rather unique in that many persons with active tuberculosis are attracted here by our warm climate. Their numbers are not as great as in the early 1900's but they still come here. To attempt to determine how these persons coming here with known active disease alter our local

statistics, the Newly Reported Active Cases for 1959 were divided into those cases diagnosed in Pima County residents and those who were known to have been diagnosed elsewhere and then came to Pima County and were reported as being here in 1959. The same was done for Tuberculosis Deaths and the Table shows the results.

The left hand column shows the vital statistics for the community and the Rates are comparable to those for the Nation. To these figures, however, must be added the morbidity and mortality statistics for Reservation Indians (population 500) who are under the supervision of the USPH but reside in Pima County area. The right hand columns show the additional load on our local statistics brought about by those who come here with active disease. They were broken down into two classifications to see how the presence of a large Veterans Hospital in the community influenced the attraction of known active cases to Pima County. (Only the Veterans who came out of the hospital to live in the community were counted, not those who came here for hospitalization only.)

In summary, reading the Table from left to right, the Newly Reported Cases in Pima County residents is increased 30% by the addition of Reports of Reservation Indians living within the area of Pima County. This sub-total is again increased by 50% by Reports of persons coming here with active disease. In reviewing the statistics for Tuberculosis Deaths, the same situation holds true. The number of deaths in County Residents who were diagnosed here is increased 30% by the addition of deaths in Reservation Indians. This sub-total is again increased by over 100% by deaths in persons who came to Pima County after being diagnosed as active tuberculosis and died of Tuberculosis here in 1959.

This analysis, I believe, explains in some measure, why the vital statistics for Tuberculosis are so high in Pima County and in Arizona. It also implies that Pima County will not be able to reach the National level as long as this additional load of cases continues to come here from other states.

William G. Ure, M.D.  
Tuberculosis Consultant  
Pima County Health Dept.  
Tucson, Arizona

#### NEWLY REPORTED CASES OF ACTIVE TUBERCULOSIS

PIMA COUNTY — 1959

GROUP "A"

Number of Cases Rate per 100,000 population	Newly Diagnosed and Reported Cases of Active TBC in Pima County Residents		Sub-Total	Active TBC Cases, Newly Reported in 1959 as being in Pima County — Diagnosed as Active TBC Prior to Coming to Pima County		Sub-Total	Final Total
	County Residents	Reservation Indians		Came Here on Their Own Means	Came Through Local Veterans Hospital		
74		22	96	27	23	50	146
27.9			35.5				54.1

#### DEATHS IN PIMA COUNTY — 1959 — TUBERCULOSIS CAUSE OF DEATH

Number of Deaths Rate — Deaths per 100,000 population	TBC Diagnosed in Pima Co. Residents — Died TBC — 1959			Sub-Total	TBC Diagnosed Elsewhere — Prior to Coming to Pima County — Died of TBC Here 1959			Sub-Total	Final Total	
	County Residents	Reservation Indians			Attended by Other Than VAH	Attended by Veterans Hospital				
18		7		25	9	20		29	54	
6.8		140		9.3					20	



## MEDICAL COURT CASES

by Howard Newcomb Morse  
Counsellor at Law of the Supreme Court of the  
United States of America

Gerber vs. Day  
District Court of Appeal of California  
6 P. 2d 535

Charles J. Gerber went to Dr. Emory C. Day for treatment after sustaining an injury. When the wound was being dressed the physician instructed the patient to procure some tetanus antitoxin serum and bring it back immediately, and for that purpose gave him a note to the druggist. The patient took the prescription but failed to have it filled. The physician did not know where the patient lived.

On the following day the physician, upon being called to the house of the patient, discovered that the prescription had not been filled. The physician sent the prescription out to be filled and administered the serum immediately. However, the administration was too late, and the patient died from a tetanus infection.

The widow of the patient, Jessie, brought an action in the Superior Court of Orange County, California, against the physician for alleged malpractice. She claimed that the death of the patient was caused by the failure of the physician to administer the serum in time to prevent an infection of tetanus. The court dismissed the case, and the widow appealed.

The District Court of Appeal of California affirmed the decision of the court below. The District Court of Appeal held that the physician was not liable for malpractice where the patient failed to have the prescription filled and return to the physician for further treatment as directed. The Court declared: "There is nothing in the evidence to show any dereliction of duty on the part of the defendant physician and surgeon."

Govan vs. McCord  
Supreme Court of Oklahoma  
11 P. 2d 141

Miss Jessie McCord complained of ill health. It was the opinion of her family physician, Dr. Bird, and his consulting physician, Dr. Day, that the patient's health would in all probability be improved by the removal of her tonsils. Dr. T. P. Govan was engaged, on their recommendation, to perform the operation.

Dr. Govan, in performing the operation, removed the uvula and both the posterior and an-

terior pillars on the right side of the throat of the patient. He asserted that it was necessary to do so because of the diseased condition of the throat. The injury to the patient's throat was permanent and she never would be able to swallow naturally.

The patient filed an action in the District Court of Osage County, Oklahoma, against Dr. Govan to recover damages caused by alleged negligence on his part. Several physicians testified in behalf of Dr. Govan that, if the patient's throat was diseased as contended by Dr. Govan, it was necessary, in performing the operation, to remove the uvula and pillars, but that, if the patient's throat was normal at the time of the operation, in their opinion, it was bad surgery to remove these parts. None of these physicians examined the patient's throat prior to the operation. The physicians who testified in behalf of the patient, and who examined her throat immediately prior to the operation, all testified that the throat was at that time normal. A jury returned a verdict in the amount of \$4,000 for the patient and the court entered judgment accordingly. Dr. Govan appealed.

The Supreme Court of Oklahoma sustained the decision of the lower court. The Supreme Court stated: "The evidence is sufficient to sustain the finding of the jury that defendant was guilty of negligence in performing the operation."

Reinhold vs. Spencer  
Supreme Court of Idaho  
26 P. 2d 796

Dr. H. D. Spencer undertook to treat Henry F. Reinhold, who was suffering with acute pneumonia. In the course of treatment it became necessary to perform an operation known as "tapping the lungs." The physician, assisted by a nurse, performed the operation, using novocaine by means of a hypodermic syringe to deaden the pain.

A small opening was made in the pleural cavity of the patient to permit drainage of pus accumulated therein. The usual treatment was followed by inserting a tube into the cavity through the small opening to provide drainage. After the operation the wound healed normally.

An x-ray examination, conducted at the Veterans' Hospital, later disclosed a hypodermic needle lodged within the thoracic cavity of the patient. An effort by surgeons at the Veterans'

Hospital to remove the needle was abandoned as being too dangerous to the patient's life. As a result of the needle being left in the patient's body he endured great pain and suffering.

The patient instituted an action in the District Court of Bonneville County, Idaho, against the physician to recover damages for malpractice. A jury returned a verdict for the patient and the court entered judgment accordingly. The physician appealed.

The Supreme Court of Idaho upheld the decision of the trial court. The Supreme Court declared: "... while the operation in and of itself was successfully performed, negligence consisted, not in the performance of the operation, but in knowingly, negligently, and carelessly leaving the needle in respondent's body and in failing to remove the same therefrom."

### BITE OF THE KISSING BUG(1)

Kissing bugs, also known as cone-nosed bugs, assassin bugs, walpai tigers, or bellows bugs, can inflict an extremely painful bite in humans. They are similar in appearance to the common squash and box elder bugs. They are usually  $\frac{1}{2}$  inch to 1 inch or more in length and have an elongated cone-shaped head. They have piercing, sucking mouthparts similar to those of the mosquito which may be folded beneath the head when not in use.

Normally, kissing bugs live in the nests of rodents such as the pack rat and intermittently feed on their hosts. Although approximately a dozen or more species of the insect occur in Arizona, *Triatoma protracta*, *Triatoma uhleri*, and *Triatoma longipes* seem to be most commonly encountered. At least two species in southern Arizona, according to Wehrle(2), have a "dispersal" flight in May and June; during this period they will be attracted to light and will enter houses. Intrusion into homes tends to be more common in the open desert or the edge of town than in the center of a city. The occurrence of these insects may continue throughout the summer but is most intense during May and June.

Houses that are continually bothered with kissing bugs are very likely located near the dens of pack rats or other small animals which harbor the insects. The method of choice for the elimination of these insect pests consists of

eradication of the rodent hosts. Once they have invaded a house, the kissing bugs will hide in cracks and crevices, under rugs, and in other inaccessible places. However, they may be effectively destroyed with common household insecticides such as chlordane.

A kissing bug may alight or crawl onto the face, neck, or arm of an individual and inflict a very painful venomous bite. The intensity of the response to the injected venom varies according to the susceptibility of the victim. Most individuals develop a hard welt  $\frac{1}{2}$  inch to 3 inches in diameter at the site of the bite. According to Herms(3), some patients may develop swelling of the entire affected member or even experience systemic symptoms such as nausea, tachycardia, tachypnea, and general urticaria.

Treatment for a bite inflicted by a kissing bug is symptomatic in nature. Wehrle(2) suggests the local application of ammonia or hot solutions of magnesium sulfate. Herms(3) has also recommended bathing the bite with magnesium sulfate solution. On the other hand, Dodge(4) suggests the use of antihistaminic drugs. Because of the probable role of endogenously released histamine in the toxic reaction(5), it would appear that epinephrine may be beneficial in severe cases of kissing bug bite.

Some victims of kissing bug bites in Arizona have been concerned with the possibility of contracting Chagas' disease from these insects. This disease occurs in South America and southern Mexico; and although the same or a micro-organism very similar to the trypanosome (*T. cruzi*) which causes Chagas' disease has been found in kissing bugs and small animals in Arizona, a search of the medical literature failed to reveal any case records of *T. cruzi* infection in the United States.

### AMMONIUM DIHYDROGEN PHOSPHATE AND AMMONIUM SULPHATE

The Arizona Poisoning Control Information Center recently received numerous inquiries regarding the toxicity of ammonium dihydrogen phosphate,  $(\text{NH}_4)\text{H}_2\text{PO}_4$ , and ammonium sulfate,  $(\text{NH}_4)_2\text{SO}_4$ , two chemicals commonly employed as plant nutrients. The "ammonium" portion of the chemical nomenclature of these compounds has misled some individuals to consider them as basic compounds. Since these substances are salts of a weak base and a strong acid, they

may be expected, upon hydrolysis, to form acidic solutions. Indeed, a saturated aqueous solution of ammonium dihydrogen phosphate (1 gram/2.5 ml) or ammonium sulfate (1 gram/1.3 ml) would have a pH of approximately 4. Because of their relatively mild acidity, these compounds would not be expected to produce a caustic effect when ingested.

## REFERENCES

1. Grateful acknowledgment is made to the Department of Entomology, College of Agriculture, The University of Arizona, Tucson, for information presented in this report on kissing bugs.
2. Wehrle, L. P., Observations on Three Species of *Triatoma* (Hemiptera: Reduviidae). Bull. Brooklyn Ent. Soc., 24:145, 1939.
3. Herms, W. B., Medical Entomology, 4th Ed., The Macmillan Co., New York, 1950.
4. Dodge, N. N., "Poisonous Dwellers of the Desert," Southwestern Monuments Association, 1952.
5. Edwards, J. S., "Insect Assassins," Scientific American, 202:72, June, 1960.

### STATISTICS OF 83 POISONING CASES IN ARIZONA DURING MAY, 1960

## AGE:

71.1% involved under 5 year age group	(59)
7.2% involved 6 to 15 year age group	( 6)
8.4% involved 16 to 30 year age group	( 7)
8.4% involved 31 to 45 year age group	( 7)
4.9% involved over 45 year age group	( 4)

## NATURE OF INCIDENT:

86.8% accidental	(72)
13.2% intentional	(11)

## TIME OF DAY:

30.1% occurred between 6 a.m. and noon	(25)
25.3% occurred between noon and 6 p.m.	(21)
20.5% occurred between 6 p.m. and midnight	(17)
1.2% occurred between midnight and 6 a.m.	( 1)
22.9% were not reported	(19)

## OUTCOME:

98.8% recovery	(82)
1.2% fatal	( 1)

## CAUSATIVE AGENTS:

Internal Medicines	Number	Percent
Aspirin	18	21.6
Other Analgesics	1	1.2
Barbiturates	6	7.2
Antihistamines	2	2.4
Laxatives	2	2.4
Cough Medicine	2	2.4
Tranquilizers	2	2.4
Others	9	10.8
Subtotal	42	50.4

## External Medicines

Liniment	0	0.0
Antiseptics	1	1.2
Others	3	3.7
Subtotal	4	4.9

## Household Preparations

Soaps, Detergents, etc.	0	0.0
Disinfectants	0	0.0
Bleach	3	3.7
Lye, corrosives, drain cleaners	2	2.4
Furniture and floor polish	0	0.0
Subtotal	5	6.1

## Petroleum Distillates

Kerosene	3	3.7
Gasoline	2	2.4
Others	7	8.4
Subtotal	12	14.5

## Cosmetics

Pesticides	0	0.0
Insecticides	7	8.4
Rodenticides	1	1.2
Others	0	0.0
Subtotal	8	9.6

## Paints, Varnishes, Solvents, etc.

Paints, Varnishes, Solvents, etc.	2	2.4
Plants (Castor Beans)	4	4.9
Miscellaneous	5	6.0
Unspecified	1	1.2

TOTAL	83	100.0
-------	----	-------

Willis R. Brewer, Ph.D.  
Dean, College of Pharmacy  
The University of Arizona  
Tucson, Arizona  
Albert L. Picchioni, Ph.D.  
Pharmacologist and Director  
Arizona Poisoning Control Program  
The University of Arizona  
Tucson, Arizona  
Lincoln Chin, Ph.D.  
Pharmacologist  
The University of Arizona  
Tucson, Arizona

### ACCIDENT-SICKNESS DISABILITY INSURANCE PROGRAMS

The purpose of such plans, offered to members by national medical organizations, is to replace income lost because of inability to practice, or to provide additional income needed during such periods of disability.

The premium dollar's protection for the members is illustrated by a comparison below of annual premium charges for an indemnity of \$100.00 per week, life-time accident benefits and sickness benefits as noted — normally five years.

These are all good plans, and the charges are substantially — up to 50 per cent — less than analogous individual coverages. Further, incidental benefits available in some programs have not been listed due to limitations of space.

Organization	Under 40	40-49	50-59	60-69	Term of Sickness Benefit	Accidental Death	Partial Disability Accident Only
American College of Physicians	\$191.00	\$191.00	\$191.00	\$191.00	5 years	\$ 5,000.00	½—4 weeks
American College of Surgeons	160.00	195.00	210.00	210.00	5 years (2½ after 65)	\$ 5,000.00	½—4 weeks
American Academy of Pediatrics	150.00	175.00	228.50	228.50	7 years	\$ 5,000.00	½—13 weeks
American College of Ob. and Gyn.	162.00	212.00	212.00	212.00	5 years	\$12,000.00	½—6 weeks
American Academy of General Practice	183.00	224.00	224.00	224.00	5 years	\$ 6,000.00	½—6 weeks
American College of Radiology	118.00	152.00	179.00	213.00	5 years	\$ 1,000.00	½—6 weeks
American College of Chest Physicians	234.80	234.80	234.80	234.80	5 years	\$ 8,000.00	½—6 weeks
†American Society of Anesthesiologists	234.80	234.80	234.80	234.80	5 years	\$12,000.00	½—6 weeks
†American Academy of O and O	232.80	232.80	232.80	232.80	5 years	\$ 6,000.00	½—6 weeks
*American Academy of Derm. & Syph.	216.00	216.00	216.00	216.00	5 years	\$ 3,000.00	½—7½ weeks
‡American College of Allergists	194.80	194.80	194.80	194.80	2 years	\$ 6,000.00	½—6 weeks
Southern Medical Association	146.00	178.00	230.00	230.00	5 years (2 yrs. after 60)	\$ 1,000.00	None
†Industrial Medical Association	175.00	175.00	175.00	175.00	2 years (5 yr. accident)	\$ 1,000.00	None
†American Association of Railway Surgeons	181.00	181.00	181.00	181.00	5 years	\$ 1,000.00	½—5 weeks
American Urological Association	128.00	148.00	175.00	215.00	2 years	\$ 5,000.00	None

\*Weekly indemnity of \$92.30, rather than \$100.00.

†\$10,000.00 dread disease rider.

(Source: The American College of Radiology Bulletin, Vol. 16, N. 5)

## AIR POLLUTION IN ARIZONA?

### IV. Legislative Aspects of the Problem

by Robert D. Smith, Jr., M.A.

Science Instructor: Scottsdale High School

When the populace is troubled by faulty air and auras, commonly called "smog," the first reflection is: "... something should be done: there ought to be a law!" But, prior to taking legal action, a few points should be considered. First, do we need a new law? Perhaps we have some unknown, non-enforced ordinances that could be used right now. Second, the new law, if needed, should be one that will do the job effectively and efficiently and not be unnecessarily or unfairly restrictive.

Air, it should be recalled, is like water or land, i.e., it is a natural resource and should be used as such. One of the prime objectives of pollution control is regulating the amount of contaminants that are placed into the air while at the same time, allowing the atmosphere to be used to its fullest extent for all other purposes.

The responsibility of any pollution laws must rest on either the federal, state, county or municipal bodies or a sub-division of one of these entities. The major emphasis thus far has been on the local municipal basis, yet in some states, the legislature must act to give the city in question the legal authority to enact the re-



quired ordinances. Here in Phoenix, as in many other cities, air pollution enforcement can come under the jurisdiction of smoke control ordinances which already exist. Smoke control ordinances are better understood and much easier to pass city council action than say, legislative action with diverse laws covering all aspects of air pollution.

In most cities at present, smoke control is limited to just the city limits: the encompassing county usually has not recognized the new and

and mutual cooperation of all parties concerned. Surely any law of this nature will miss its mark if it does not provide for a cooperative attitude between the individuals operating the plants and the enforcement personnel.

Inasmuch as most public issues become subject to political forces, air pollution abatement must not become a partisan matter.

The cost of a working program will be borne by permits, fees, taxes, and/or amortization of some fund set aside for this purpose. The range



Fig. 1. Looking south from Phoenix Towers. Note that the pollute cloud is about 300-400 ft. thick or just under the inversion layer. Photo taken about 8:00 A.M., Mid-January, 1960.

growing problem. In some recorded cases, both city and county have duplication of efforts and conflicts in procedures and methods. It is obvious we cannot have clean air over a city without some type of restrictions on the sources of pollution whether it be within the cities or counties.

Then too, in order to have any complete air pollution program within the area, a competent staff is necessary, both in number and specialized training to maintain a constant check and control on the offenders. Air pollution can be solved only by the pooling of technical skills

of average costs in some communities for enforcement of air pollution laws is from \$70 to \$1700 per square mile. As can be seen, air pollution control is mostly a matter of economics. A community or county can have as much clean air as it wishes depending on the amount of enforcement and money it has to spend on controls.

Thus far, one state, Oregon, has passed an air pollution law. The Oregon law sets up an additional division within their State Board of Health to be known as the Air Pollution Authority of

the State of Oregon. This board consists of five members: the State Health Officer and four appointed members who serve staggered terms of office. These members receive no salary, but they do receive compensation for expenses.

This board is responsible for the prevention and control of all sources of air pollution within the state and the enforcement of the law as set down by the legislature. Offenders of the law are brought before the board for a hearing, and are subject to the penalties set down by the board. The penalties range from a strict warning

and further delay in some type of control is inexcusable.

If a new plant or company were to locate in a community with strict anti-pollution laws already in effect, they would probably have to submit a list of facts concerning their operation to an Air Pollution Board. In this report or registration, the following information would be desirable, if not mandatory:

- a. Location of outlets, stacks, or chimneys
- b. Size and height of the outlets
- c. Rate of emission from outlet



Fig. 2. Looking SSW from Phoenix Towers on a February morning. Note the Sierra Estrella Mountains are almost totally obscured. (All photos by the author.)

on the first offense to a fine and/or jail sentences for a repeated offender.

As of this writing, there have been no federal enactments on the air pollution problem. The automobile exhaust problem will probably have to be a combined federal and local program of control and should be initiated on both levels without delay. The regulation or prohibition of diesel operated vehicles is a critical problem that cannot be delayed. The nuisance of their "black clouds" has been protested for many years

- d. Composition of the effluent
- e. Hours of continued operation

The Board would have to allow for some exceptions, such as accidental discharges, non-continuous operation, etc. Other exemptions could be granted as the need arose.

When the Board first received the necessary data from the new company, it could then begin to compute the rate and direction of the fallout over the community. This is readily done by skilled meteorologists. From this, the probable

I  
sci  
rec  
des  
in t  
A  
tan  
am  
A  
Fou  
will  
\*F  
1960  
High

sources of community complaints can be seen beforehand and measures taken with the new company to reduce the fallout.

Preliminary registration of data about a new firm provides the necessary means to prevent a problem and also anticipate possible complaints before the firm sets up in business. This allows their engineers to alter construction plans prior to actual building. In special instances, the Air Pollution Board might even suggest a suitable building site to avoid contamination over a neighboring community.

Unfortunately most legislation on the problem of air pollution has been centered in the municipalities. Most offenders are usually found in the county or surrounding areas of the cities. However, we must not overlook another group of offenders who drive cars, burn trash in the incinerators at the wrong time of day, and those who have inefficient heating systems. It is very probable that we will be subjected to stricter and more restrictive laws in the future; whether they come from federal, state, or local governments remains to be seen. The public, industry, and government are all fairly well convinced that there is a need for some type of pollution abatement and some degree of improvement in our atmosphere should be forthcoming.

To answer the leading statement, "Air Pollution in Arizona?" Yes. The reader is asked to examine the enclosed photos of downtown Phoenix taken last January. Note the obscuration of the South Mountains by the pollution.

Each photo was taken on separate days and on each, it was impossible to see from one side of the valley to the other.

### NEW MEXICO PLANS MEDICAL SCHOOL, OTHER STATES STUDY NEEDS\*

Plans for a "regional" school of basic medical sciences at the University of New Mexico topped recent news of Western states' increased activity designed to meet coming shortages of physicians in the region.

Arizona, California, Hawaii, Idaho, and Montana also are taking specific new steps to examine their medical education needs.

A \$1,082,300 grant from the W. K. Kellogg Foundation to the University of New Mexico will assist the University over a five-year period

to establish a school covering the first two years of the medical curriculum. About half of the grant will be spent to meet in part the planning and operating costs for the school's first five years, and the other half will be allocated toward construction of the medical school facility on the Albuquerque campus.

### THE MEDICAL STUDENT, HIS FAMILY AND HIS COSTS OF MEDICAL EDUCATION

The Datagrams, Vol. 1, No. 6, March, 1960, which discussed medical student finances indicated that the average cost to the student of 4 years of medical school, as experienced by the 1959 graduating class, was \$11,642 or \$2,911 per year. Recent findings in the same study indicate that the individual student and his family are paying the largest portion of these costs with only minor assistance from outside agencies. Gifts and loans from parents, relatives and/or in-laws and the student's or his wife's earnings provide 82% or all financial resources available to the student. Agencies outside the family, such as the medical school, local banks, federal and state governments, provide the remaining 18% of financial resources.

The data on various amounts of financial help given by the student's own parents or relatives (including wife and in-laws) through gifts and/or loans are summarized in Figure 1.

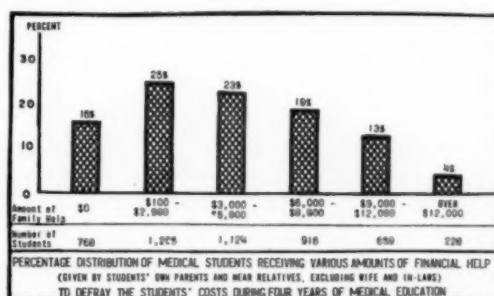


FIGURE 1

Special attention needs to be given to the facts that 16% of the 1959 graduating class of medical students received no help from their families while 36% received \$6000 or more.

One of the basic factors which allows the medical students' families to give them financial help is the level of parental income. The data on the income of the parents of the 1959 graduating class members is summarized in Figure

\*From Higher Education in the West (Volume 6, No. 2, June, 1960), a publication of the Western Interstate Commission for Higher Education.

II below. These data are compared with published census data on the U. S. average of white urban families in 1957.

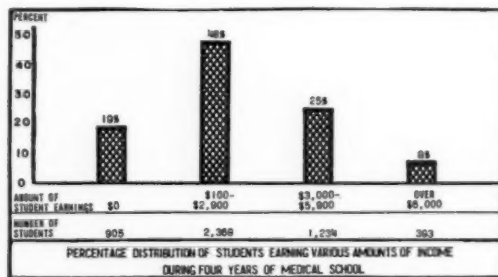
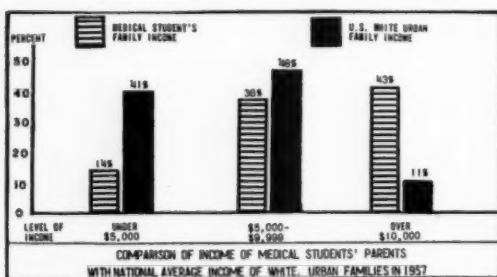
The data on student earnings applied to the there is a much smaller proportion of medical students from lower income group families and, conversely, a much larger proportion of medical students from families with income of \$10,000 or more than the proportion of such families in the U. S. population. An integration of the data in Figures I and II unequivocally demonstrates that lower income families simply cannot provide the amounts of money needed by the student to pay for the costs of his medical education.

One method which students use to substitute for or supplement financial aid from their families is to earn money to pay their bills by work during summer vacation and the academic year.

The data in Figure II indicate clearly that

costs of medical education by the students in the 1959 graduating class are summarized in Figure III.

The data in the tables above clearly indicate that there is a need for a positive program of financial assistance to medical students. First, if we are to reach our goal of increasing the number of physicians to meet the nation's health needs, we must draw upon a broader socioeconomic base within the population. To do this, financial assistance is necessary. Second, current medical students in order to pay their bills must frequently engage in work which has nothing to do with medical education. Increased financial assistance would allow the elimination of the unproductive work which is currently being carried on at the expense of the fullest realization of the intended educational experience.



Funds for basic research in the medical sciences have risen sharply in the past few years, according to the current issue of *Patterns of Disease*.

As an index of the growing emphasis on basic research, the rapid increase in grants made by the National Science Foundation, the only Federal agency committed solely to basic research. In 1958, the Foundation awarded \$10,881,130 in grants for biological and medical research, compared with only \$762,675 in 1952.

The nation's academic institutions are the centers of basic research. Most of the grant-type support they receive is directed toward basic research in the physical and life sciences. In two separate surveys, one showed that larger colleges and universities spent two thirds of their research funds on basic research and another showed that medical schools devoted almost four fifths to basic research.



*Reprints*

## "Let's Stop Feeding The Crocodile"\*

*"Each appeaser hopes that if he feeds the crocodile enough, the crocodile will eat him last" . . . Mr. Winston Churchill uttered these words of wisdom when he was stirring his people to defend their homeland. . . . He found his greatest opposition to be some British leaders who were advocating a weak-kneed course of appeasement, rather than an immediate determined fight for survival. . . . History now records that Mr. Churchill overcame his appeasing opposition. . . . If he had failed, England would have failed, too.*

*The position of the American medical profession today is analogous to the position of England in the early, dark days of World War II. . . . Some medical leaders would postpone the day of reckoning and feed the "crocodile" a few additional choice morsels of medical freedom — usually from the cupboard of an issue which hasn't directly touched their medical lives. . . . For example: Some physicians in cities and communities which are not affected by the United Mine Workers' Welfare Fund are not unduly concerned over the rapidly diminishing medical freedom of physicians who practice in mining areas.*

*We believe the crocodile has been fed long enough. . . . We believe time is running out for the medical appeasers and that they are only a*

*few short steps removed from becoming the crocodile's last meal. . . . The crocodile has been well fed over the years on the medical profession's lack of all-out aggressive opposition to the government's program of providing medical care to veterans with non-service connected disabilities. . . . This anemic position has permitted this program to grow and become accepted to the extent that statements are now being made in some high places that if a man or woman puts on a military uniform, he has a "right" to receive government paid medical and hospital care — whether or not he was disabled in or out of the uniform, in or out of his tour of service.*

*Medical appeasers served the crocodile with a deluxe banquet when they reversed their course and supported the creation of a Department of Health, Education and Welfare. . . . Those who went along with President Eisenhower and Mrs. Hobby on this plan to glorify America's breeding ground for Socialism by elevating it to Cabinet status, probably thought their surrender would gain the undying and never-changing gratitude of political powers to the extent the "Department of Socialism" would never again turn against the medical profession. . . . But appeasement and subordination of principles to expediency never achieve anything except dishonor. . . . Appeasers are used by those who seek their help until the deed is accomplished — then, they are discredited and dis-*

\*Reprinted from Association of American Physicians and Surgeons News Letter, December, 1957, Vol. 11, No. 12.

respected. . . . The Department of Socialism "rewarded" the appeasers with disability freeze, disability insurance and the still unpassed plan for health reinsurance.

*Excellent cuisine was supplied the crocodile when Medicare was enacted into law. . . .* This scheme of socialistic medicine for military dependents has completed one year of operation and has cost the taxpayers approximately \$76 million and cut off a large chunk of medical freedom.

*During the past several years, a new group of appeasers have indicated their desire to be the last ones to be eaten by the crocodile, by their inconsistent insistence that doctors be compulsorily included in socialistic Social Security. . . .* As we have pointed out many times, if a majority of physicians voluntarily accept inclusion in communistic-inspired compulsory Social Security, they will have lost their strongest argument against compulsory socialistic medicine. . . . If compulsory socialistic Social Security is good enough for physicians, then patients and the government will be on sound ground when they contend that compulsory socialistic medical care is "good enough" for patients.

*Another group of appeasers is now spewing forth its unimaginative and visionless philosophy of "getting together" — they mean appeasing — with John L. Lewis' UMW Welfare Fund. . . .* Although officials of the UMW have denied free choice of physicians by designating only a small number of "approved" physicians to deliver medical services to beneficiaries, these appeasers give semi-professional approval to this step to destroy quality medical care and private practice when they urge "getting together." . . . There should be enough evidence by now to convince any physician that there is never any satisfactory conclusion through appeasement of labor bosses. . . . It is the nature of their responsibility never to be satisfied. . . . They must continue to seek more and more in order to keep their memberships reasonably satisfied and to perpetuate their dynasties.

*If physicians knuckle under to the labor bosses, the crocodile will be fed one of his most tasty meals to date. . . .* And, these appeasers will be next up for the crocodile's dessert. . . . Ethical physicians cannot — or should not — compromise with those labor bosses who seek to reduce physicians to a slave state and destroy quality

medical care by denial of free choice. . . . Unless physicians are ready to throw in the sponge, revise downward the code of medical ethics, reduce standards for delivery of medical care, and become docile servants of the labor bosses, they must invoke non-participation. . . . Loss of pride in their well-being is no excuse for physicians to shirk their first responsibility of protecting their patients from bad medical care. . . . The only absolute safeguard for their patients is non-cooperation with schemes of medical care that are inimical to the patient's interest. . . . It is the only honorable way for honorable physicians. . . . Yet, there are some who already are whispering "non-participation won't work because physicians won't stick together." . . . This defeatist attitude adds to the ammunition of those appeasers who seek to "get back in" (the UMW program).

*We listed several examples of the successful employment of non-participation in the AAPS Information Bulletin of November 22, 1957. . . .* We made a recent check on three of the examples, San Francisco, the Union of South Africa, and British Columbia and non-participation is still effective after a number of years. . . . In British Columbia they did socialize the hospitals but they have never proclaimed the Act which was passed in 1936 to socialize physicians. . . . We are repeating Dr. J. H. Harvey Pirie's (Union of South Africa) statement regarding non-participation for the benefit of our defeatist brethren. . . . It is this: "Make up your minds what you want and/or don't want; organize; stick together."

*We believe physicians will stick together when the chips are down. . . .* They are "down" now. . . . When quality medical care is threatened with destruction; when patients are faced with assembly-line care, manned by physicians who will be paid on an incentive-lacking salary basis; when the personal responsibility of the physician to his patient is threatened by elimination, we believe physicians will resolve their differences, temporarily submerge their rugged individualisms and unite together to save their patients and themselves from the degradation of enslaving regimentation.

*AAPS member, Dr. Allen T. Stewart of Lubbock, Texas, presents a good case for AAPS non-participation. . . .* In his letter, dated December 5, 1957, he states: "The philosophy of your approach to the problem of government

medicine is the only rational or feasible one advanced to date. . . . The grandiose schemes of socialized medicine all assume that physicians will cooperate. . . . They cannot function without doctors. . . . If we refuse to comply, the entire scheme crumbles. . . . Millions have been squandered in an effort to promote better public relations for medicine. . . . Our position will command more respect and be more effective if we stand up and oppose those who would destroy American medicine. . . . Without us, what plan can succeed? . . . More power to you."

*Let's not feed the crocodile any longer. . . . He has grown fat on big bites of medical freedom. . . . Let's starve him by convincing our appeasing colleagues that continued appeasement can result only in a professional and economic debacle. . . . Let's close ranks and refuse participation in any unethical scheme in order to protect our patients and regain public respect for the medical profession. . . . Our decision not to participate in bad schemes and our unalterable support of this decision will be the most effective public relations ever practiced by the medical profession. . . . Our already suffering prestige will be lessened with the handful of labor bosses and political leftwingers. . . . On the other hand, the action of non-participation in behalf of patients will gain the respect and further cement the friendships of millions and millions of Americans who depend on and expect their individual physicians to protect them from schemes of inferior medical care. . . . Let's emulate Winston Churchill and inspire our colleagues to wage a successful battle for Freedom.*

Louis S. Wegryn, M.D.

President

### HEALTH MANPOWER FOR THE FUTURE

An interesting survey by two staff members of the United States Public Health Service\* points up possible shortages of professional health personnel in the near future due to the rapidly increasing population in this country. The conclusions of these authors are summarized as follows:

"The future supply of physicians is not expected to keep up with the greatly accelerated rate of growth of the population. The predic-

tions take into account estimates of the graduates of medical schools in the United States, new licentiates graduated from Canadian and other foreign medical schools, and deaths among those in the profession.

"The number of graduates of U. S. medical schools currently predicted for existing and planned schools is expected to increase from about 6,900 in 1959 to 7,400 in 1965. The number of physicians (M.D.) in the latter year will be about 260,000, or 132.8 per 100,000 population which is about the present ratio.

"If the number of graduates of U. S. medical schools were to remain at about 7,400 per year between 1965 and 1975, while the foreign-educated physicians entering practice in this country leveled off at 750 per year, the number of physicians (M.D.) in 1975 would be increased to 296,000. The ratio, however, will decrease to 125.9 physicians per 100,000 persons. If the annual number of U. S. graduates were to be increased sufficiently to maintain the present physician-population ratio in 1975, the 1975 graduating class would have to be increased to approximately 10,360, in order to have 311,500 physicians (M.D.) in that year.

"The number of osteopathic physicians is about 14,000, with 460 graduates in 1959. If the annual graduating class is increased to about 525, by 1975 the supply of physicians (D.O.) may reach 16,700. The ratio to population will have declined, however, from 8.0 to 7.1 doctors per 100,000 population.

"Increases in dentist supply have been lagging behind the population growth despite large gains in the numbers being graduated. The annual number of graduates is expected to increase from the present 3,100 to nearly 3,500 by 1965. Unless there are further increases, the number of dentists in 1975 will be about 118,000, or 50 per 100,000 population. To regain the 1958 ratio of 56 dentists per 100,000 population requires 133,000 dentists in 1975 and an additional 2,700 graduates that year above the number currently planned.

"The supply of professional nurses has more than kept pace with the population growth. With 467,000 nurses now active, the ratio is 267 per 100,000 persons. The annual number of graduates is expected to increase from 30,400 in 1958 to 37,000 in 1965 and continue upward. On this basis, the ratio is expected to be 284 active professional nurses per 100,000 population in 1970."

\*Stewart, W. H., M.D., and Pennell, M. Y., M.Sc.: *Health Manpower, 1930-75*. Reprinted from *Public Health Reports*, Vol. 75, No. 3, March 1960, by permission.

## THE "OPEN-NEGATIVE" PROBLEM

### Editor's Note:

*The subject of "Open-Negative" cavities is a bit premature. To me, it is mainly drug (anti-TB) effect, and we don't know what will happen after a period of years after stopping the drugs. They may not remain "open-negative." We need longer observation period.*

WGU

*Clear cut definitions of "open-negative," "relapse" and "bacteriologic remission" are recommended by the Committee on Therapy of the American Trudeau Society as a means of dispelling the present confusion surrounding this problem.*

The "open-negative" problem is largely a product of the chemotherapy era. Formerly the persistence of open cavity on the roentgenograms of a tuberculosis patient was almost invariably associated with the ability to recover tubercle bacilli from his secretions. Today, however, the majority of patients receiving a first course of effective chemotherapy for cavitary tuberculosis pass through a phase of bacteriologic remission while one or more cavities are still open. In some, this is followed by cavity filling or closure leading to an inactive classification. In others, the bacteriologic remission and persistent open lesion coexist for months or even years. This group of cases constitutes the "open-negative" problem.

The problem is that, after eight years of experience, agreement on the treatment and prognosis of these patients is lacking. Much of the conflict appears to be the result of the different ways in which various reporters use the terms "open-negative" and "relapse."

For the purposes of this report an "open" lesion is a hole or space in an area of the lung previously involved by tuberculosis, containing air and usually surrounded by a wall of sufficient density to be recognizable as such morphologically or roentgenographically. Not included are: (1) areas of increased radiolucency of segmental or lobar extent without a definite wall; and (2) former cavities, from which all air is absent; and (3) bullae, cysts, and areas of cystic or saccular bronchial dilatation when these can be differentiated with reasonable certainty from residual tuberculous cavities — a distinction not always possible.

The duration of bacteriologic remission re-

quired for inclusion in the "open-negative" category must be arbitrary. It is recommended that tubercle bacilli shall have been absent from the sputum and gastric contents examined at monthly intervals for at least six months. It is also recommended that the term "open-negative" be supplemented by indicating the duration of bacteriologic remission: thus "open-negative 6 months" or "open-negative 18 months."

## INCIDENCE AND DIAGNOSIS

It has been estimated that approximately 90 per cent of patients who receive a first course of effective chemotherapy for cavitary pulmonary tuberculosis will achieve bacteriologic remission (reversal of infectiousness, sputum conversion) during the first eight months of treatment. More than half of such patients, however, will still have roentgenographic evidence of cavity if examined carefully.

The diagnosis of an open lesion on chest roentgenograms or planigrams preoperatively is usually followed by its discovery in the resected specimen. In general, an open lesion of some kind will be found in the resected specimen in 75 to 85 per cent of cases when one is reasonably suspected after careful examination of serial roentgenograms. The more equivocal the roentgenogram, the poorer this correlation becomes.

Although much has been made of the advanced state of healing in some resected "open-negative" lesions, this is a relative thing which is usually compared with the morphologic appearance of cavities resected without drug coverage or obtained at autopsy. Even today with effective chemotherapy, the majority of resected "open-negative" lesions show residual caseous foci and granulation tissue irregularly distributed in and along the cleanly sloughed, fibrotic cavity wall.

It has been shown that the longer the period of bacteriologic remission prior to resection in surgically treated cases, the more advanced the healing process appears and the more difficult it is to recover viable bacilli. A similar correlation between the duration of bacteriologic remission and the morphology and tissue bacteriology in unresected "open-negative" cases is often assumed, but specific proof is missing.

## RELAPSE

If one wishes to measure the prognostic significance of the "open-negative" state by the incidence of relapse, one must arbitrarily define



relapse. Simultaneous roentgenographic worsening and positive bacteriologic findings are universally accepted as evidence of relapse. It is proposed that recovery of tubercle bacilli by sputum culture or smear or gastric culture in a patient classified as "open-negative" be considered a relapse. While it might seem desirable to require more than a single positive bacteriologic finding for relapse, the tendency to introduce new drugs or other measures after even a single positive culture, especially when unsuspected drug resistance is noted, is very common and a second positive bacteriologic finding might thereby be prevented or masked, thus lowering the relapse incidence artificially.

Unfavorable roentgenographic changes with smears and cultures repeatedly negative for tubercle bacilli may be due to nontuberculous pulmonary diseases. Such changes, therefore, should rarely, if at all, be counted in tabulating tuberculosis relapse incidence in the "open-negative" group. The physicians may elect quite properly to treat such a patient as a case of tuberculous relapse in the absence of bacteriologic confirmation, but for statistical purposes such cases should be classified separately. The same applies to patients who show signs of clinical worsening such as fever, weight loss, increased cough, expectoration, or even hemoptysis without roentgenographic change or bacteriologic confirmation of tuberculous etiology. The role of indefinite prolongation of drug therapy in preventing relapse needs investigation. The earlier a relapse occurs, the more

likely it is to occur while drugs are still being given; the later the relapse occurs, the more likely it is to follow cessation of chemotherapy.

#### IN SUMMARY

The problem of persistent open cavity with bacteriologic remission of greater or less duration is a phenomenon peculiar to the era of effective chemotherapy for tuberculosis. The roentgenographic findings fairly represent the morphologic findings in the majority of patients whose lesions are resected and may also reflect the findings in unresected lesions.

The definition of "open-negative" based on the presence of a cavity and inability to recover tubercle bacilli from secretions is arbitrary, but a bacteriologic remission of six months or longer is recommended for inclusion in this category. Relapse should be defined as bacteriologic escape or combined roentgenographic-bacteriologic worsening without bacteriologic proof of its tuberculosis etiology.

The relationship between relapse, duration of bacteriologic remission, and the duration of effective drug therapy is in need of further study. Only then can the relative risk of relapse and the risk of resection in patients exemplifying the "open-negative" problem be fairly weighted.

Thomas B. Barnett, Edward Dunner, H. Corwin Hinshaw, Gardner Middlebrook, Donald L. Paulson, James W. Raleigh, William W. Stead, James A. Weir, chairman.

---

### OVER 150,000 NEW ARIZONA HOUSEHOLDS FORECAST DURING 1960-1970

Households in Arizona are expected to grow by over 150,000 during the ten years between 1960 and 1970. By 1970, the NAM estimates, 587,200 family units will be competing in the market place for household goods and services in this State. The rate of household growth in Arizona is forecast to outpace by far the national household increase rate during the ten years ahead. These projections are made in a NAM report, "Dynamic Decade, 1960-1970."

Western Division of the  
National Association of Manufacturers

## *Future Medical Meetings and Postgraduate Education*

### **ARIZONA ACADEMY OF GENERAL PRACTICE CONVENTION**

OCTOBER 13, 14, 15, 1960  
Hotel Valley Ho — Scottsdale  
All Physicians Cordially Invited

#### **PROGRAM**

THURSDAY, OCTOBER 13, 2-5:00 P.M.

"The Roll of Professional Management"

Speaker, Mr. Edward W. Rice

Doctors' Business Bureau

Boise, Idaho

#### **SUBJECT NO. 2**

"The Doctor's Accountant"

Speaker, Mr. Gary Wade

Doctors' Business Bureau

Tucson, Arizona

#### **SUBJECT NO. 3**

"Paying for Medical Care"

Speaker, Mr. George Richardson

Medical-Dental-Finance Bureau

Phoenix, Arizona

FRIDAY, OCTOBER 14, 9-12:00 P.M.

Urology Clinic

"The Use and Abuse of Catheters"

"Urologic Conditions that Simulate General

Surgical Conditions in the Abdomen"

Speaker, David K. Worgan, M.D.

Seattle, Washington

FRIDAY, OCTOBER 14, 2-5:00 P.M.

Psychosomatic Clinic

"Psychosomatic Medicine in General Practice"

Speaker, Edward J. Kollar, M.D.

The Neuropsychiatric Institute

UCLA

SATURDAY, OCTOBER 15, 8-12:00 P.M.

Burn Clinic

"Burn Management"

Speaker, Edward N. Vogel, Jr., M.D., Col. MC

Brooke Army Hospital

Local moderators will appear on the program  
and there will be sufficient breaks for questions  
and answers and to visit the exhibits.

### **SOCIEDAD MEDICA DE ESTADOS UNIDAS DE NORTEAMERICA Y MEXICO**

#### **MEDICAL SOCIETY OF THE UNITED STATES & MEXICO**

Medical Society of the United States and  
Mexico Fifth Annual Meeting — Guadalajara,  
Jal., Mexico, November 8-9-10; followed by  
Mazatlan, Sin., Mexico, November 11-12. For  
information write: M. A. Carreras, M.D., 130  
South Scott, Tucson, Arizona.

**9TH ANNUAL CANCER SEMINAR**

of the Arizona Division  
American Cancer Society

"Changing Concepts in Tumor Formation  
and Therapy"

Tentative Program  
January 12, 13 & 15, 1961  
Tidelands Motor Inn — Tucson

**Thursday, January 12**

- 9:00 A.M. — Greetings — Dr. Lindsey E. Beaton, President, The Arizona Medical Association.
- 9:15 A.M. — Some Metabolic Approaches to Cancer Chemotherapy — Part 1 — Arnold D. Welch, Ph.D., M.D.
- 9:45 A.M. — Theoretical Aspects of Immunology — Chester M. Southam, M.D.
- 10:30 A.M. — Break.
- 10:45 A.M. — The Polyoma Story — Arthur W. Ham, M.B.
- 11:15 A.M. — Diagnostic and Therapeutic Studies on Cancer of the Adrenal — Roy Hertz, M.D.
- 12:00 Noon — Luncheon and Round Table.
- 2:00 P.M. — The Use of Limited Surgery and Maintenance Chemotherapy for the Management of Certain "Inoperable" Tumors — Jeanne C. Bateman, M.D.
- 2:30 P.M. — Laboratory Studies in Cancer Chemotherapy with Fluorinated Pyrimidines — Charles Heidelberger, Ph.D.
- 3:00 P.M. — Break.
- 3:15 P.M. — Bone Pathology — C. Howard Hatcher, M.D.
- 3:45 P.M. — Question and Answer Session.

**Friday, January 13**

- 9:15 A.M. — Assessment of Environmental Agents in the Pathogenesis of Lung Cancer — Paul Kotin, M.D.
- 9:45 A.M. — Indirect Mechanisms in Carcinogenesis — Henry S. Kaplan, M.D.
- 10:15 A.M. — Break.
- 10:30 A.M. — Some Metabolic Approaches to Cancer Chemotherapy — Part II — Arnold D. Welch, Ph.D., M.D.
- 11:15 A.M. — Chemotherapy of Choriocarcinoma and Related Trophoblastic Tumors — Roy Harris, M.D.
- 12:00 Noon — Luncheon.
- 1:30 P.M. — Treatment of Bone Tumors — C. Howard Hatcher, M.D.
- 2:00 P.M. — The Treatment of Advanced Meta-

static Tumors — Jeanne C. Bateman, M.D.

2:30 P.M. — Break.

2:45-4:00 P.M. — Panel: Care of the Patient with Advanced Malignancy — Jeanne C. Bateman, M.D.; Roy Hertz, M.D.; Charles Heidelberger, Ph.D.; Henry S. Kaplan, M.D., plus clergy and two clinicians.

**Saturday, January 14**

- 9:15 A.M. — Clinical Pharmacology Studies with Fluorinated Pyrimidines — Charles Heidelberger, Ph.D.
- 9:45 A.M. — Immunology As It Relates to Cancer: Clinical Applications — Past Attempts and Future Possibilities — Chester M. Southam, M.D.
- 10:15 A.M. — Break.
- 10:30 A.M. — Host Factors in Relation to the Action of Environmental Carcinogenic Agents — Paul Kotin, M.D.
- 11:00 A.M. — Chemical Modification of Radiosensitivity — Henry S. Kaplan, M.D.
- 11:30 A.M. — Possible Tumor Viruses in Man — Arthur W. Ham, M.B.

**FACULTY****9TH ANNUAL CANCER SEMINAR**

Jeanne C. Bateman, M.D., Washington Hospital Center, Washington, D. C.

Arthur W. Ham, M.B., Head, Department of Medical Biophysics, University of Toronto, The Ontario Cancer Institute.

C. Howard Hatcher, M.D., Professor and Head, Division of Orthopedics, Department of Surgery, Stanford University School of Medicine.

Charles Heidelberger, Ph.D., Professor of Oncology, McArdle Memorial Laboratory for Cancer Research, The University of Wisconsin Medical School.

Roy Hertz, M.D., Chief, Endocrinology Branch, National Institute of Health, Department of Health, Education and Welfare, Public Health Service.

Henry S. Kaplan, M.D., Executive, Department of Radiology, Stanford University School of Medicine.

Paul Kotin, M.D., Paul Peirce Professor of Pathology, University of Southern California School of Medicine.

Chester M. Southam, M.D., Sloan-Kettering Institute for Cancer Research.

Arnold D. Welch, Ph.D., M.D., Eugene Higgins Professor of Pharmacology and Chairman of Department, Sterling Hall of Medicine, Yale University School of Medicine.

## THE AMERICAN COLLEGE OF PHYSICIANS

Postgraduate Courses, Autumn-Winter, 1960-61

**COURSE NO. 1: HEMATOLOGY AND RADIOISOTOPES**, The Ohio State University College of Medicine, Columbus, Ohio, September 19-23, 1960.

**COURSE NO. 2: CANCER AND THE INTERNIST — 1960 CONCEPTS**, Memorial Center, Sloan-Kettering Institute for Cancer Research, New York, N. Y., October 10-14, 1960.

**COURSE NO. 3: ELECTROCARDIOGRAPHY**, University of Utah College of Medicine, Salt Lake City, Utah, November 7-11, 1960.

**COURSE NO. 4: RECENT ADVANCES IN DRUG THERAPY**, University of Washington School of Medicine, Seattle, Washington, January 9-13, 1961.

**COURSE NO. 5: MECHANISMS OF DISEASE**, Columbia University College of Physicians and Surgeons, Presbyterian Hospital, New York, N. Y., January 16-20, 1961.

**COURSE NO. 6: SELECTED TOPICS IN INTERNAL MEDICINE**, The University of Oklahoma, School of Medicine and University Hospitals, Oklahoma City, Oklahoma, February 20-24, 1961.

## COURSES ON MANAGEMENT OF MASS CASUALTIES

The following spaces for civilian physicians for Management of Mass Casualties courses during fiscal 1961 have been made available to the AMA Council on National Security by the Office of the Surgeon General, Department of the Army:

<i>Installation</i>	<i>Date</i>	<i>Quota</i>
Army Medical Service		
School, Brooke Army	Oct. 3-7, 1960	2
Medical Center, Fort	Nov. 5-9, 1960	2
Sam Houston, San	Jan. 30-Feb. 3, 1961	2
Antonio, Texas	May 22-26, 1961	2

Physicians interested in attending one of these courses are requested to write directly to the Council on National Security. Names and addresses of physicians selected to attend any course must be furnished by the Council to the commander of the installation conducting the course not later than four weeks prior to the scheduled course date.

### AMERICAN COLLEGE OF SURGEONS

46th Annual Clinical Congress  
October 10-14, 1960  
San Francisco, Calif.

The 1960 revised edition of the American Association of Blood Banks' technical manual, **TECHNICAL METHODS AND PROCEDURES**, (108 pages), is now available. Published by the AABB, copies are available from the American Association of Blood Banks, Suite 1619, 30 N. Michigan Avenue, Chicago 2, Illinois. Cost to members: 1-5 copies, \$4 per copy; 6 or more, \$3.50; non-members, \$5.

### RADIUM and RADIUM D+E

(Including Radium Applicators)

#### FOR ALL MEDICAL PURPOSES

Est. 1919

#### Quincy X-Ray and Radium Laboratories

(Owned & Directed by a Physician-Radiologist)

W.C.U. Bldg.

Harold Swanberg, B.S., M.D., Director

Quincy, Illinois